

## 1. PROPOSED ACTION

### 1.1 Purpose and Need for Agency Action

#### 1.1 (34)

**Comment** - 11 comments summarized

Commenters stated that the EIS does not adequately justify the need for a geologic repository.

#### **Response**

As described in Chapter 1 of the EIS, Congress determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to permanently dispose of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act states that the Federal Government must take precautions to ensure that these materials do not adversely affect this and future generations.

The passage by Congress of the original Nuclear Waste Policy Act of 1982 established the need for a geologic repository. But this policy was developed only after years of careful consideration of other disposal methods. DOE examined these alternatives, including disposal in salt domes, on islands, in oceanic trenches, in ice sheets, by transmutation, by injection into deep holes, and by launching the waste into outer space, in a 1980 EIS (DIRS 104832-DOE 1980). A 1981 Record of Decision to that EIS determined that DOE would pursue mined geologic disposal (46 FR 26677, May 14, 1981) (see Section 1.3.1 of the EIS). Virtually every expert group that has examined the disposal of high-level radioactive waste (including spent nuclear fuel) has agreed that a geologic repository is the best approach. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). The panel's report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), reaffirms this position. The National Research Council maintains that "geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management." This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

The Nuclear Waste Policy Act, as amended (NWPAA), addresses how certain National Environmental Policy Act requirements apply to the proposed Yucca Mountain Repository. In particular, the Act specifies that DOE need not consider in the EIS the need for a repository, alternatives to geologic disposal, or alternative sites to Yucca Mountain.

#### 1.1 (40)

**Comment** - 2 comments summarized

Commenters suggested that Section 1.3 of the EIS discuss repository siting activities at Lyons, Kansas, including why the site was not developed and lessons that can be applied to the Yucca Mountain project.

It was also noted that the determination that a mined deep geologic repository is the best treatment alternative offers information from analyses that are at least 20 years old. If newer studies or reviews have been completed, or if other findings support or dispute these conclusions, the EIS should reference them. In light of the technological advancement, should other alternatives be considered?

#### **Response**

The research studies conducted in a Lyons, Kansas, salt mine led to a better understanding on the potential for use of bedded salt deposits for the disposal of high-level radioactive waste. Lessons learned from that research were incorporated in the technical basis for disposal of radioactive waste and into the siting guidelines for a repository, which have evolved since then.

Virtually every expert group that has examined the disposal of high-level radioactive waste (including spent nuclear fuel) has agreed that a geologic repository is the best approach. For more than 40 years, the National Academy of Sciences (NAS), through the National Research Council, has conducted studies on high-level radioactive waste and spent nuclear fuel. Over the course of this period, the Academy has repeatedly mentioned geologic disposal as the

preferred method for managing this waste. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). Their May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), reaffirms this position. The Academy maintains that “geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management.” This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

### 1.1 (85)

#### **Comment** - 3 comments summarized

Page 2-69, Section 2.3.1 of the EIS contains a reference to a 1990 National Research Council report. Commenters requested clarification regarding the composition of the National Academy of Sciences panel that made the statement, “there is a worldwide scientific consensus that geologic disposal, the approach being followed by the United States, is the best option for disposing of high-level radioactive waste.” A commenter also requested that DOE revisit the alternatives that were dismissed in 1981.

#### **Response**

The National Academy of Sciences is a private, nonprofit society of distinguished scholars engaged in scientific and engineering research. The Academy is dedicated to the advancement of science and technology, and to the use of science and technology to promote the general safety and wellbeing. On the authority of the charter granted to it by Congress in 1863, the Academy has a mandate that requires it to advise the Federal Government on scientific and technical matters. The National Research Council was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy’s purpose of furthering knowledge and advising the Federal Government. The 1990 report by the National Research Council was prepared by the Board on Radioactive Waste Management, a permanent committee of the National Research Council. In July 1988, the Board convened a week-long study session in Santa Barbara, California, where experts from the United States and abroad joined the Board on Radioactive Waste Management in intensive discussions on U.S. policies and programs on high-level radioactive waste management. The report issued by the National Research Council in 1990 was based on those discussions. The conclusions about geologic disposal were reaffirmed in 2001 by the National Research Council. Their May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), concluded that “geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management.” This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

In the *Final Environmental Impact Statement, Management of Commercially Generated Radioactive Waste*, DOE evaluated high-level radioactive waste disposal alternatives including very deep borehole disposal, disposal in a mined cavity that resulted from rock melting, island-based geologic disposal, subseabed disposal, ice sheet disposal, well injection disposal, transmutation, space disposal, and no action (DIRS 104832-DOE 1980). In its 1981 Record of Decision (46 FR 26677; May 14, 1981), DOE decided that the mined geologic disposal alternative was the best alternative for the disposition of spent nuclear fuel and high-level radioactive waste.

The Nuclear Waste Policy Act of 1982 began a process for selecting sites for technical study as potential geologic repository locations. In the Nuclear Waste Policy Amendments Act of 1987, Congress made the decision to focus on only the Yucca Mountain site as a geologic repository. Sections 114(f)(2) and (3) of the Act provide that DOE need not consider in the EIS the need for a geologic repository, and alternatives to isolating spent nuclear fuel and high-level radioactive waste in a repository [42 U.S.C. 10134(f)(2) and (3)]. In addition, the EIS does not have to consider any site other than Yucca Mountain for development as a repository. In light of the Congressional focus on a geologic repository and the consensus referred to by the National Research Council, DOE does not agree that the alternatives rejected in 1981 should be reconsidered.

### 1.1 (101)

#### **Comment** - 102 comments summarized

Commenters stated that DOE is studying Yucca Mountain as the only potential site for a geologic repository because Nevada is politically weak and is considered to be a wasteland. Many stated that this is especially unfair because

Nevada has no nuclear powerplants and has already suffered an undue burden from nuclear weapons testing at the Nevada Test Site.

**Response**

Congress made the decision to focus on the Yucca Mountain site as a geologic repository when it amended the Nuclear Waste Policy Act through the passage of the Nuclear Waste Policy Amendments Act of 1987. The Nuclear Waste Policy Act of 1982 provided a process for selecting sites for technical study as potential geologic repository locations. In accordance with this process, DOE identified nine candidate sites, the Secretary of Energy nominated five of the nine sites for further consideration, and DOE issued environmental assessments for the five sites. DOE recommended three of the five sites, of which Yucca Mountain was one, for study as repository site candidates. In 1987, Congress amended the Nuclear Waste Policy Act by directing the Secretary of Energy to perform site characterization activities at the Yucca Mountain site, and, if the site is found suitable, make a recommendation to the President on whether to approve the site for development of a repository.

DOE acknowledges that Nevada has played a major role in the development and testing of nuclear weapons. While Nevada has no nuclear powerplants, the State's residents benefit from nuclear power in the form of consumer goods manufactured in cities that use electricity generated at nuclear powerplants. In addition, Nevada residents use electricity generated by nuclear powerplants during times of peak electrical demand. DOE recognizes, nonetheless, that many people in Nevada believe that the Federal program to develop a geologic repository has unfairly focused on a candidate site in Nevada.

**1.1 (122)**

**Comment** - 23 comments summarized

Commenters stated that geologic burial is an unsafe method for disposing of nuclear waste, and they would like DOE and Congress to reevaluate the Nation's nuclear waste policy.

**Response**

Section 1.3 of the EIS provides a brief history of the management of spent nuclear fuel and high-level radioactive waste. Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission recommended burying radioactive waste in geologic formations in *The Disposal of Radioactive Waste on Land* (DIRS 100011-NAS 1957). In 1975, the Energy Research and Development Administration, a predecessor to DOE, selected a deep, geologic site near Carlsbad, New Mexico, for the Waste Isolation Pilot Plant for the disposal of transuranic waste. In the *Final Environmental Impact Statement, Management of Commercially Generated Radioactive Waste* (DIRS 104832-DOE 1980), DOE evaluated high-level radioactive waste disposal alternatives including very deep borehole disposal, disposal in a mined cavity that resulted from rock melting, island-based geologic disposal, subseabed disposal, ice sheet disposal, well-injection disposal, transmutation, space disposal, and no action. In a 1981 Record of Decision (46 *FR* 26677; May 14, 1981), DOE decided that the mined geologic disposal alternative was the best alternative for the disposition of spent nuclear fuel and high-level radioactive waste.

The Nuclear Waste Policy Act of 1982 established a process for selecting sites for technical study as potential geologic repository locations. In accordance with this process, DOE identified nine candidate sites, the Secretary of Energy nominated five of the nine sites for further consideration and DOE issued environmental assessments for the five sites. DOE recommended three of the five sites, of which Yucca Mountain was one, for study as repository site candidates. Congress amended the Nuclear Waste Policy Act through the passage of the Nuclear Waste Policy Amendments Act of 1987, directing the Secretary of Energy to perform site characterization activities at only the Yucca Mountain site.

The basic concept of geologic disposal is to place carefully prepared and packaged waste in excavated tunnels in rock. The advantage of a geologic repository is that it would not require perpetual human care and would not rely on the stability of society for tens of thousands of years into the future. It would rely instead on a series of natural and engineered barriers to contain the waste for thousands of years and to minimize the amount of radioactive material that would eventually reach the human environment. All countries pursuing geologic disposal are taking the multibarrier approach, though they differ in the barriers they emphasize. The German disposal concept, for example, relies heavily on the geologic barrier, a rock salt formation, at the prospective disposal site. The Swedish method, on the other hand, relies heavily on thick copper waste packages to contain waste. The U.S. approach is to

design a repository in which the natural rock barriers and engineered barriers work as a system. This is called defense-in-depth.

Virtually every expert group that has examined the problem of high-level radioactive waste disposal has agreed that a geologic repository is the best approach. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). Their May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), reaffirms this position. The National Research Council maintains that “geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management.” This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

### 1.1 (123)

#### **Comment** - 4 comments summarized

Commenters questioned why only the Yucca Mountain site is being studied as a potential location for a geologic repository for spent nuclear fuel and high-level radioactive waste, expressing the concern that Yucca Mountain is not the best location. Commenters suggested other potential sites such as the Nevada Test Site, the Waste Isolation Pilot Plant in New Mexico, and sites in the eastern United States.

#### **Response**

Section 1.3.2 of the EIS contains a figure and discussion of the events leading to the selection of Yucca Mountain for study for geologic disposal of spent nuclear fuel and high-level radioactive waste. The Nuclear Waste Policy Act of 1982 established a process for selecting sites for technical study as potential geologic repository locations. In accordance with this process, DOE identified nine candidate sites, the Secretary of Energy nominated five of the nine sites for further consideration and DOE issued environmental assessments for the five sites. DOE recommended three of the five sites, of which Yucca Mountain was one, for study as repository site candidates.

Alternative sites mentioned by commenters are not suitable for study as repository locations for various reasons. Sites on the Nevada Test Site in contaminated areas once used for testing nuclear weapons are not suitable because DOE could use them for future testing if that became necessary for reasons of national security. The Waste Isolation Pilot Plant in New Mexico is authorized only for the disposal of defense transuranic waste, and not commercial nuclear waste. Potential sites in the eastern United States have been investigated over the years, such as those containing thick deposits of Devonian shale or thick salt domes, but in 1987 Congress amended the Nuclear Waste Policy Act of 1982 directing the Secretary of Energy to perform site characterization activities only at the Yucca Mountain site. The Act requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

### 1.1 (124)

#### **Comment** - 29 comments summarized

Commenters stated that the Proposed Action would cause higher than acceptable levels of risk after the 10,000-year timeframe. They contend that DOE has focused on delaying releases from the repository so that future generations must shoulder the burden of, and receive the effects of, the resulting contamination.

#### **Response**

As described in Chapter 1 of the EIS, Congress determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose of spent nuclear fuel and high-level radioactive waste permanently to protect the public health and safety and the environment. The Act further states that the Federal Government must take precautions to ensure that these materials do not adversely affect this and future generations.

Congress amended the Nuclear Waste Policy Act through the passage of the Nuclear Waste Policy Amendments Act of 1987, directing the Secretary of Energy to perform site characterization activities only at the Yucca Mountain site.

Given the current state of technology, it is impossible to design and construct a geologic repository that would provide a reasonable expectation that there would never be any releases of radioactive materials. DOE would design, construct, operate and monitor, and eventually close a repository that would meet public health and safety radiation protection standards and criteria established by the Environmental Protection Agency and the Nuclear Regulatory Commission. Congress, in the Energy Policy Act of 1992, directed the Agency to develop public health and safety standards for the protection of the public from releases from radioactive materials stored or disposed of in a repository at the Yucca Mountain site. Congress also directed the Commission to publish criteria for licensing the repository that would be consistent with the radiation protection standards established by the Agency. These standards (40 CFR Part 197) and criteria (10 CFR Part 63) prescribe radiation exposure limits that the repository, based on a performance assessment, cannot exceed during a 10,000-year period after closure.

In the EIS, DOE has assessed the ability of the natural and engineered barrier system to isolate radioactive materials from the environment for thousands of years, and DOE would expect repository releases to the accessible environment to be orders of magnitude less than the prescribed radiation exposure limits during the 10,000-year period after closure. Based on the repository design and performance assessment, DOE believes that releases of radioactive materials for the first 10,000 years after repository closure would be limited, the result of incorporating a small number of waste package failures due to manufacturing defects into the Total System Performance Assessment.

DOE estimates that the peak annual individual dose (95<sup>th</sup> percentile) to a hypothetical individual would not occur until about 410,000 years after closure and would be about 620 millirem. The mean peak annual individual dose within 1 million years was calculated to be 150 millirem at 480,000 years. On this basis, DOE has concluded that the repository would provide a high degree of long-term isolation of spent nuclear fuel and high-level radioactive waste.

#### **1.1 (287)**

##### **Comment** - EIS000021 / 0003

Why not simply admit you made a mistake, and that it is sounder policy to retain the waste where it was/is generated and monitor it over time, praying always for the humility to succeed in that task. Yes, you'd take heat; it might even cause lawsuits. Isn't it better to admit a problem up front than to go on blindly compounding the mess that was caused by the original error in judgement? That would be the humane, noble thing to do.

Who cares about the impact of plutonium storage at Yucca Mountain? My children and the children of all of us unto the thousandth generation. Grow up, admit your policy flaws, and stop this insanity.

##### **Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, amendments to the Nuclear Waste Policy Act directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE has conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a repository. The results of the program have provided information for this EIS and other documents. The investigations and evaluations have consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government have reviewed the results of the site characterization program.

The Secretary of Energy will consider this information, as well as the results of the environmental analyses in this EIS and public input, in determining whether to recommend development of the Yucca Mountain site as a repository to the President.

**1.1 (293)**

**Comment** - EIS000027 / 0001

[DOE] decided long ago that Nevada was a worthless, barren wasteland fit only for all those superfluous atomic tests (did we not learn the awesome power of the atom at Hiroshima, Nagasaki, and Bikini Atoll). And now Nevada is to be used as the dump for radioactive garbage from almost every state and even some foreign countries!!!

**Response**

As described in the Final EIS on a Proposed Nuclear Weapons Nonproliferation Policy Concerning Foreign Research Reactor Spent Nuclear Fuels (DIRS 101812-DOE 1996), the United States is accepting spent nuclear fuel containing uranium produced or enriched in the United States that has been used in foreign research reactors. This program involves approximately 19.2 metric tons of heavy metal (MTHM) in spent nuclear fuel and 0.6 MTHM in target material from 41 countries over a 13-year period. The purpose of the program is to support the broad U.S. nuclear weapons nonproliferation policy calling for reduction and eventual elimination of highly enriched uranium used in civil commerce worldwide.

While the United States has decided to accept foreign spent nuclear fuel under certain circumstances, foreign countries do not have an unfettered option to send their spent nuclear fuel to the United States. This EIS does not anticipate or analyze the disposal of foreign spent nuclear fuel other than that analyzed. If, in the future, this country should consider acceptance and disposal of additional foreign spent nuclear fuel, DOE would analyze any such proposals in separate environmental documentation consistent with the National Environmental Policy Act (10 CFR Part 1021).

**1.1 (765)**

**Comment** - 010028 / 0008

This nation should not allow the site safety issues to be deferred until after the President and Congress in their wisdom say Yucca Mountain is suitable. There is a very great difference between an Environmental Impact Statement review of key site safety issues and the Nuclear Regulatory Commission's staffs' review of safety. I propose that the process be modified and that all the site safety issues not involved with the subsurface repository design be addressed now using the Nuclear Power Plant Early Site Review Process. This process was legislated in the late 1970s to allow the determination of a proposed nuclear plant site prior to submitting a complete construction permit application. The early site review process leads to a letter from the Atomic Committee on Reactor Safety (ACRS). This process was successfully used for the proposed San Joaquin Nuclear Generating Station (four 1,200 MWe units) that was located in northwestern Kern County, California. However, after an informational vote of the citizens of Kern County against this San Joaquin Nuclear Generating Station, which was a joint project of all the major California utilities, the project was cancelled in favor of large coal-fired generating units in Utah.

**Response**

Section 1.3.2.3 of the EIS describes the repository decision process as established by Congress in the NWP. There is no statutory basis for DOE to use any other process, such as the "Nuclear Power Plant Early Site Review Process," cited by the commenter. The Secretary of Energy will make a determination whether to recommend the site to the President on the basis of several types of information, including site recommendation documents and technical information in this EIS. Any recommendation would be accompanied not only by the Final EIS, but also by those other materials designated in Section 114 of the NWP, including the views and comments of the Governor and legislature of any state or the governing body of any affected Indian tribe.

If the site designation becomes effective, the Secretary would submit a license application to the Nuclear Regulatory Commission (NRC) for authorization to construct a repository and would provide a copy of the application to the Governor and Legislature of Nevada. The NWP requires the NRC to issue a final decision approving or disapproving the construction authorization, which would be based, in part, on compliance with 10 CFR Part 63. For example, this regulation would require DOE to conduct an integrated safety analysis to demonstrate that NRC performance requirements and radiation protection standards could be met in the Geologic Repository Operation Area prior to repository closure. For postclosure repository performance, DOE would be required to demonstrate the presence of multiple barriers and to show, by conducting a performance assessment, that the repository would satisfy postclosure radiation standards for a 10,000-year compliance period.

If the Secretary receives a construction authorization from the NRC, DOE could proceed with constructing the repository in accordance with NRC requirements. The Secretary could later submit to the NRC an amendment to the license application requesting a license to receive and possess waste.

**1.1 (1095)**

**Comment** - EIS000162 / 0001

It is imperative that the DOE take the necessary actions to fulfill its mandate in the Nuclear Waste Policy Act (NWPA) to develop a permanent repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain, Nevada. Doing nothing or taking no action to remove nuclear waste from the plant sites is not an option. There is nothing in the Draft Environmental Impact Statement (DEIS) that precludes moving forward with the development of Yucca Mountain as a permanent repository.

**Response**

The EIS is one of many documents that the Secretary of Energy will use in determining whether to recommend Yucca Mountain to the President for development as a repository. To date, the Secretary has not made a decision about such a recommendation.

**1.1 (1314)**

**Comment** - EIS000419 / 0001

I am concerned primarily with the flawed EIS process as exhibited in the DEIS presented to the public in July of 1999. Firstly, the need for the repository is not included and secondly no comparison to reasonable alternatives is given. All other EISs must provide this information. Congress's move in 1987 to exempt this particular EIS from the requirement to provide this information makes it an irresponsible anti-democratic activity that denies the intent of NEPA [the National Environmental Policy Act]. The public is not allowed the chance to make informed decisions since neither the design of the repository nor its impacts is included in the current EIS. The only rational way to rectify this appalling disregard of the democratic process is for Congress to recognize their huge manipulative mistake and scrap the 1987 decision.

**Response**

In amending the Nuclear Waste Policy Act of 1982, Congress concluded that a geologic repository was the safest alternative for waste disposal (see Section 1.3 of the EIS for additional information). The Act specifically exempts DOE from considering in the EIS (1) the need for a repository, (2) alternative sites to Yucca Mountain, (3) alternative methods to geologic disposal, and (4) the time at which a repository could become available.

Chapter 2 of the EIS and the Supplement to the Draft EIS describe the overall design of the repository and the transportation facilities that would be required in Nevada, including a variety of implementing alternatives and design scenarios. Chapters 4, 5, 6, 8, and 10 describe the environmental impacts associated with the Proposed Action.

**1.1 (1472)**

**Comment** - EIS000485 / 0001

When Congress amended the Nuclear Waste Policy Act in 1987, they designated Yucca Mountain, Nevada, as the only site to be considered as a high-level nuclear waste repository, removing all other sites, which until then were also under consideration. The reasons were political rather than scientific or technical. Yucca Mountain lies within the most earthquake-prone region of the country, which alone should have disqualified it from consideration long ago. However, because Nevada has only two representatives and two senators in Congress, we were an easy target for members of Congress representing more powerful states also under consideration for a repository.

Even more troubling than the politically-based nature of the decision to target Nevada alone for high-level waste, is the fact that to help insure approval of the site, Congress undermined key provisions of the National Environmental Policy Act with respect to the Yucca Mountain project. NWPA limited the scope and extent of the evaluation of potential environmental impacts normally required in an environmental impact statement under NEPA.

In other words, Congress has significantly diminished the inherent value of conducting an environmental impact statement, in an apparent attempt to rubber-stamp NEPA approval on the project.

**Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In amending the Nuclear Waste Policy Act of 1982, Congress concluded that a geologic repository was the safest alternative for waste disposal (see Section 1.3 of the EIS for additional information). The Act specifically exempts DOE from considering in the EIS (1) the need for a repository, (2) alternative sites to Yucca Mountain, (3) alternative methods to geologic disposal, and (4) the time at which a repository could become available.

Congress selected Yucca Mountain in 1987 as the only site to be studied as a potential location for a monitored geologic repository.

DOE has a site characterization program to evaluate and assess the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for this EIS. The program consists of scientific, engineering, and technical studies and activities. The Department used the information from this program to support the preparation of the EIS, which is one of many documents that the Secretary of Energy will use in determining whether to recommend Yucca Mountain to the President for development of a repository. To date, the Secretary has not made a decision on such a recommendation.

The purpose of the National Environmental Policy Act is to promote an understanding of the environmental consequences of Federal actions before an agency takes action. DOE believes that this EIS appropriately describes the type and magnitude of environmental impacts that could occur if it constructed, operated and monitored, and eventually closed a repository at Yucca Mountain.

The repository would operate only if DOE can demonstrate that the repository would meet public health and safety standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission. These standards limit the amount and timing of releases to ensure that the repository would protect public health and safety. The repository would be designed and operated to meet such standards. In the vicinity of the repository – the area within 80 kilometers (50 miles) of Yucca Mountain – DOE estimates that no individual would receive more than a few millirem (a thousandth of a rem) per year during the preclosure period (see Sections 4.1.2 and 4.1.7 of the EIS) or during the 10,000-year period after repository closure (see Section 5.4). Based on the results of these analyses, DOE has concluded that the repository would provide a high degree of long-term isolation of spent nuclear fuel and high-level radioactive waste (consistent with the radiation protection standards at 40 CFR Part 197).

**1.1 (1663)**

**Comment** - EIS000441 / 0004

Nye County recognizes that the permanent isolation of the wastes that are currently in storage at scores of sites across the United States is an essential element of our national energy policy. Nye County also recognizes that the disposal of these wastes at Yucca Mountain will reduce the threats to the national resources and public dependent upon the resources at these sites. However, the United States must recognize that the risk reduction in communities across the country will result in the focusing of those risks on a single jurisdiction, my jurisdiction [Nye County], which I live very close to.

The disposal of these wastes with a total radioactivity on ... the order of 11 billion which we claim to be up to 14 billion and some say up to 26 billion curies will most certainly render Nye County vulnerable in contamination well into the future and will pose a threat [to] the citizens in the shadow [of the] repository for all practical purposes. For the laymen's terms, it might as well be forever.

**Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the

Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations. DOE is implementing this Act.

The Energy Policy Act of 1992 requires the Environmental Protection Agency to promulgate standards at 40 CFR 197. These regulations establish limits on the annual committed effective dose that a member of the public can receive during the first 10,000 years following disposal, and require that releases of radionuclides from an undisturbed repository not cause the level of radioactivity in groundwater to exceed specified limits. The Environmental Protection Agency believes that these standards are reasonable, and that before the proposed repository could be licensed, DOE would have to demonstrate, to a reasonable degree of certainty, that the standards would be met.

**1.1 (1676)**

**Comment** - EIS000345 / 0002

As a taxpayer I am very mad that you have wasted my tax money into this site, when you knew that it was not doable. Many scientists during the surveys have said it would not work. So my question to you is, why do you continue to keep putting my tax dollars into this project?

**Response**

In 1987, amendments to the Nuclear Waste Policy Act directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE has conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a repository. The results of the program have provided information for this EIS and other documents. The investigations and evaluations have consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government have reviewed the results of the site characterization program.

The Secretary of Energy will consider this information, as well as the results of the environmental analyses in this EIS and public input, in determining whether to recommend development of the Yucca Mountain site as a repository to the President.

**1.1 (1743)**

**Comment** - EIS000533 / 0001

The Yucca [Mountain] DEIS is a sham and a farce due both to constraints placed by 1987 Waste Act and to DOE NTS officially consistent lousy estimate[s] of public danger and single-minded determination to implement grand plans that later turn out to be cataclysmic failures.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act, as amended in 1987, directs the Secretary of Energy to determine whether to recommend that the President approve Yucca Mountain for development of a geologic repository and to prepare a Final EIS to accompany any site recommendation to the President. The Act addresses how certain National Environmental Policy Act requirements apply. In particular, the Act specifies that it is not necessary to consider in the EIS the need for a repository, alternatives to geologic disposal, or alternative sites to Yucca Mountain.

The repository would operate only if DOE can demonstrate that the repository would meet public health and safety standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission. These standards limit the amount and timing of releases to ensure that the repository would protect public health and safety. The repository would be designed and operated to meet such standards. In the vicinity of the repository – the area within 80 kilometers (50 miles) of Yucca Mountain – DOE estimates that no individual would receive more than a few millirem (a thousandth of a rem) per year during the preclosure period (see Sections 4.1.2 and 4.1.7 of the EIS) or during the 10,000-year period after repository closure (see Section 5.4). Based on the results of these analyses, DOE has concluded that the repository would provide a high degree of long-term isolation of spent nuclear fuel and high-level radioactive waste (consistent with the radiation protection standards at 40 CFR Part 197).

**1.1 (2053)**

**Comment** - EIS000576 / 0001

We should look to whether or not the Yucca Mountain proposal is a good plan of action, by first looking at whether or not a need has been demonstrated. Now I find it kind of disheartening that Congress in its infinite wisdom in passing the Nuclear Waste Policy Act has told the Department of Energy that the EIS need not consider the need for a repository.

Now Congress didn't say that the EIS doesn't have to consider the need of Yucca Mountain being a repository. The EIS doesn't even have to consider if we need a repository at all. That seems kind of weird.

This alone is a reason to go with the no action alternative, because we can't even demonstrate that we actually need to have an action in the first place.

The second thing is though no need has actually been established, we still throw around this term that we need it as if we really do. So let's ask ourselves a question: What is this nebulous assumed need that everyone is talking about?

The need is actually space for storage. So the question then becomes, if we implement the Yucca Mountain plan, does it solve this need of space? And temporarily you could say that the answer is yes.

But what happens when the Yucca Mountain facility gets full? You are always going to need more space because the source of the nuclear waste is left untouched. So you are always going to have nuclear waste, and you are always going to be looking for space for it.

So in the long term, nothing is achieved by passing this Yucca Mountain proposal. Nuclear waste continues to be created, and space to store the nuclear waste will always be sought after. Which is another reason why maybe we ought to go back to the drawing board and consider whether or not it's even a good idea that we have nuclear power.

I want to show to you what this big picture is, in seeing that the Yucca Mountain proposal has not demonstrated that we really need it, the Yucca Mountain proposal fails to solve the assumed need of space of where we're going to put the nuclear waste, and that the proposal is not even beneficial, and it has not been shown to be the best, it's obviously not sound policy making when you look to what Congress has decided to do with the Nuclear Waste Policy Act.

This means that Nevadans -- and I'm glad to see the people out here tonight. I'm glad that you guys are telling the Department of Energy that you have demands that you want our civic leaders to meet, and they need to.

But this is another thing, too, that I want the Department of Energy to take in tonight. It's important that the experts who are here in this room, and right now I only see one, but nevertheless, the experts who are here in this room, I mean you as I think an individual, I'm very sure that you know where I'm coming from here when I'm saying that, okay, logically speaking, we haven't even demonstrated that we need to have a repository. We don't even have to look at whether or not we need a repository.

Doesn't that seem weird to you? As a thinking individual, why would you implement a plan you can't even demonstrate you actually need to do?

So you yourself have grounds alone to reject this proposal, to reject this policy, and not kow-tow to Congress, because the Department of Energy and also the Environmental Protection Agency, those are the experts who should be telling Congress what to do, not the other way around. So what I would like to ask the Department of Energy to do is go ahead and exercise your power to say to Congress, you know what, you made a couple of bad moves here by passing the Nuclear Waste Policy Act, and we don't agree with what you are trying to tell us to do because we have consciences. We also agree with a lot of the things Nevadans have said because they have asked a lot of good questions which you as Congress for some reason or another don't want to look at.

I think that the Department of Energy in its right mind should turn this plan around and say no, Congress, go back to the drawing board. We as experts are going to tell you what is the best idea because right now the approach is bad, and the policy as it stands is also very flawed.

**Response**

Chapter 1 of the EIS states that Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act recognized a need to ensure that spent nuclear fuel and high-level radioactive waste now accumulating at commercial and DOE sites do not adversely affect the public health and safety and the environment [Section 111 (a)(7)].

As discussed in Section 1.5 of the EIS, the Nuclear Waste Policy Act, as amended, includes four provisions relevant to the EIS. Under the Act, the Secretary is not required to consider (1) the need for a geologic repository, (2) the time at which the repository could become available, (3) alternatives to isolating materials in a repository, and (4) any site other than Yucca Mountain for the repository development.

**1.1 (2229)**

**Comment** - EIS000622 / 0013

There's also the problem that the amount of materials that you are talking about moving will actually have reached its peak. We will have this 70,000 tons of material by the time you're actually trying to open the doors down there. So we'll again be in the same problem with reactors all over the United States producing these kind of materials, stacking them up everywhere, and at the same time, we will have exposed 50 million people along the rail routes and the highways. We will have exposed 43 states. We will have exposed many so far clean areas, such as this one, and we'll have the same problem. And yet we'll have all this material shoved in the ground where there is nothing we can do to monitor it or take care of problems as they occur.

**Response**

The NWPA prohibits the Nuclear Regulatory Commission from authorizing the emplacement of more than 70,000 metric tons of heavy metal (MTHM) of spent nuclear fuel and high-level radioactive waste in the proposed repository until a second repository is in operation. Therefore, a site for a second repository could be considered in the future regardless of where the first repository would be located. However, in response to comments received during the EIS scoping period (see Section 1.5.1.1 of the EIS), DOE evaluated the disposal of more than 70,000 MTHM as a reasonably foreseeable future action as part of the Cumulative Impacts discussion (see Chapter 8). The introduction to Chapter 8 acknowledges that the emplacement of more than 70,000 MTHM would require legislative action by Congress unless a second licensed repository was in operation.

During the period starting with emplacement of materials and extending until closure (which could be as long as more than 300 years), DOE would monitor the repository continuously through a system of sensors and administrative inspections (see Section 2.1.2 of the EIS). This would give future decisionmakers the option to take corrective actions, if required, and make societal choices on closing the repository or retrieving material.

Section 122 of the NWPA requires DOE to maintain the ability to retrieve the materials in the repository if there was a decision to retrieve them to protect public health and safety or the environment or to recover constituent parts of spent nuclear fuel. This requirement is reflected in the Nuclear Regulatory Commission's disposal regulations [10 CFR 63.111(e)]. Although DOE does not anticipate that retrieval would be necessary, it would use the repository design to maintain the ability for future generations to retrieve materials for at least 50 years and possibly for as long as 300 years after emplacement operations have begun (see EIS Section 4.2). The Federal Government, therefore, would maintain stewardship of the repository site for generations to come. These stewardship activities would entail site protection, confirmatory scientific work, and a postclosure monitoring program required by Nuclear Regulatory Commission rules governing the disposal of high-level wastes in a geologic repository (10 CFR 63.51). The decision to close the repository (and thus give up active control) and the details of the postclosure monitoring program would be defined during the processing and approval of a license amendment for permanent closure, supported by what more advanced analyses based on future data and modeling tools. Section 2.1.2 discusses the types of monitoring that DOE would consider.

**1.1 (2275)**

**Comment** - EIS000545 / 0001

I would have to submit that the entire process is flawed by virtue of the kind of legislation under which the DOE has to operate. They are in a trap and we are in a trap because of the very bad legislation which brought us to this point.

And it seems almost impossible to come through the environmental impact process given the very bad option, the impossible option of no action and the unacceptable dangerous option of Yucca Mountain.

The most responsible thing perhaps would be for the DOE to take this evidence which is being presented back to Congress and say neither one of those will work.

Now there is a nuclear power industry which drives many of the decisions in Congress on this matter. That will have to be addressed at that point. But this is so badly flawed that that would seem to be the best option for all of us.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act, as amended in 1987, directs the Secretary of Energy to determine whether to recommend that the President approve Yucca Mountain for development of a geologic repository. To date, the Secretary has not made a determination about such a recommendation.

The repository would operate only if DOE can demonstrate that the repository would meet public health and safety standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission. These standards limit the amount and timing of releases to ensure that the repository would protect public health and safety. The repository would be designed and operated to meet such standards.

If DOE determined that Yucca Mountain was an unsuitable site, it would recommend to Congress further action to ensure the safe, permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislation.

**1.1 (2377)**

**Comment** - EIS000664 / 0002

I believe that Congress will take the hole in the mountain at Yucca and use it. They've spent billions and billions and billions and that's Congress' history, not to start over and spend billions and billions and billions of more [money].

**Response**

In 1987, Congress directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. DOE has a site characterization program to evaluate and assess the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for the EIS. The program consists of scientific, engineering, and technical studies and activities. The Department used the information from this program to support the preparation of the EIS, which is one of many documents the Secretary of Energy will use in determining whether to recommend Yucca Mountain to the President for development of a repository. To date, the Secretary has not made a decision about such a recommendation.

**1.1 (2941)**

**Comment** - EIS000988 / 0009

Analysis shows severe problems with any underground repository method and particularly shows absurdity of Congressional bills that exempt Yucca Mountain from environmental standards so that it remains the designated nuclear waste repository area. I can only agree with comments made by Senator Bryan during March 1995 debates stating:

"I am shocked and outraged that the [Department] of Energy and the nuclear power industry continues to force acceptance of a dump in Nevada when it appears that its own scientists cannot reach consensus on the most fundamental safety questions related to nuclear waste. The scientific community is still questioning the very

premise of geologic storage. Yet the DOE long standing official position is that nuclear waste storage at Yucca Mountain is a political problem not a technical one.”

I can only add that I am appalled but not really surprised that so many in Congress have remained so crassly insensitive to the safety of their supposed constituents, with the possible exception of just before elections, and to the daunting technical problems they repeatedly force on federal agencies like DOE and the liability and costs to us taxpayers by mandating a national nuclear waste repository.

#### **Response**

As described in Chapter 1 of the EIS, through the passage of the Nuclear Waste Policy Act of 1982, Congress determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository.

DOE has a site characterization program to evaluate and assess the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for this EIS. The program consists of scientific, engineering, and technical studies and activities. The Department used the information from this program to prepare the EIS, which is one of many documents the Secretary of Energy will use in determining whether to recommend Yucca Mountain to the President for the development of a repository. To date, the Secretary has not made that decision.

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-NAS 1957). In 1976, the Energy Research and Development Administration (another predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and launching waste into the sun.

Based on the results of these investigations and the analyses of the *Final Environmental Impact Statement Management of Commercially Generated Radioactive Waste* (DIRS 104832-DOE 1980), DOE determined in a Record of Decision (46 FR 26677, May 14, 1981) that it would pursue mined geologic disposal. As stated in Section 2.3.1 of the EIS, virtually every expert group that has examined the issue of high-level radioactive waste disposal has agreed that a geologic repository is the best approach. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). This position was reaffirmed in 2001 by the National Research Council in its May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001). The National Research Council maintains that “geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management.” This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

#### **1.1 (3405)**

##### **Comment** - EIS001393 / 0006

In *Centesimus Annus* (On the Hundredth Anniversary of Rerum Novarum, Pope Leo XIII landmark document), Pope John Paul II calls on the state to provide “for the defense and preservation of common good such as the natural and human environments.” (Section 40) Here, the government is clearly failing to heed the call to take of the common good of both human beings and the Earth that they depend on. In *Sollicitudo Rei Socialis* (On Social Concern), John Paul refers to quality of life, saying “We all know that the direct or indirect result of industrialization is, ever more frequently, the pollution of the environment, with serious consequences for the health of the population.”

The pope continues, discussing God's command to Adam in Genesis: "The dominion granted to man by the Creator is not an absolute power, nor can one speak of a freedom to 'use and misuse', *or to dispose of things as one pleases.*" [Italics added.] This last phrase is a clear call for careful consideration of both long and short term results of any human endeavor. The dominion passage of [Genesis] 2:16-17 is frequently misconstrued to mean that people have a God-given right to do whatever they want with natural resources. However, John Paul states unequivocally that "The limitation imposed from the beginning by the Creator himself and expressed symbolically by the prohibition not to 'eat of the fruit of the tree' shows clearly enough that, when it comes to the natural world, we are subject not only to biological laws but also to moral ones, which cannot be violated with impunity."

#### **Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a potential geologic repository. The investigations and evaluations consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The results of the program have provided information for the EIS and other Departmental documents. In addition, various independent entities including the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government reviewed the results of the site characterization program.

#### **1.1 (4165)**

##### **Comment** - EIS000978 / 0003

I expect my air and water to be clean and I expect that the government will immediately allot money to find a solution for safe disposal of this waste and will dispose of the ridiculous idea of transporting it. I want the DOE, any government agencies, Congress, and the President to start now to clean up the entire mess and stop listening to corp. and energy interests.

#### **Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act, as amended in 1987, directs DOE to determine whether geologic disposal at Yucca Mountain is safe and to prepare an EIS to accompany any site recommendation to the President.

The EIS analyzes the Proposed Action to construct, operate and monitor, and eventually close a geologic repository at Yucca Mountain, the potential impacts of transporting spent nuclear fuel and high-level radioactive waste from 77 sites across the United States to Yucca Mountain, and the potential impacts of leaving the waste at those 77 sites.

#### **1.1 (4492)**

##### **Comment** - EIS001464 / 0004

I guess I would conclude by saying that the United States currently has a failed policy for storage and isolation of spent fuel, has a failed policy in dealing with the Class B and C wastes associated with the nuclear power industry, with the compact system failing right and left as we speak; that it is time for elected leadership, particularly locally, to take an aggressive position to force a reassessment of both the high-level and the low-level radiation disposal systems, programs in this country; and until that is done at a policy level, at the level of the president and executive branch, legislative branch, that this program should not be proceeding to this stage of environmental review.

We believe the environmental review has been simply a means of justifying the political decision and that the scientific basis of that review, while extensive, is also ahead of -- or rather it's behind the environmental process, and that's inappropriate. The review process should be taking place further in the future when some of the scientific controversies and questions attendant to the facility itself are resolved satisfactorily.

That aside, this is still a policy question that needs to be determined at the highest levels of our government nationally, and it requires that the citizens of this region and this state be actively involved in forcing that process.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress passed the Nuclear Waste Policy Amendments Act, which directs the Secretary of Energy to determine whether to recommend that the President approve Yucca Mountain for development of a geologic repository. In response, DOE conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a potential geologic repository. The investigations and evaluations consist of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS).

Congress created the U.S. Nuclear Waste Technical Review Board as an independent organization to evaluate the technical and scientific validity of site characterization activities for the proposed repository (NWPAA, Section 503). The Board must report findings, conclusions, and recommendations based on its evaluations to Congress and to the Secretary of Energy at least twice each year (NWPAA, Section 508). Other independent organizations, such as the Nuclear Regulatory Commission, the State of Nevada, and affected units of local government have reviewed the results of the site characterization program. The results of the program have provided information for the EIS and other Departmental documents.

The Secretary of Energy will consider this information, as well as the results of the environmental analyses of this EIS and public input, in determining whether to recommend development of the Yucca Mountain site as a geologic repository to the President.

The repository would operate only if DOE can demonstrate that it would meet public health and safety standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission. These standards limit the amount and timing of releases from the repository to ensure protection of public health and safety. The repository would be designed and operated to meet such standards.

**1.1 (4667)**

**Comment** - EIS001372 / 0010

I am very skeptical about this “need” to create a geologic repository for the nation’s high-level radioactive waste. Yes, inevitably, we may need to create a repository somewhere...but in order to understand the “problem,” we must open our vision wide enough to embrace the entire picture. There are 109 operating nuclear reactors in the U.S., which produce only 7.7% of the nation’s power. And yet, these reactors produce the vast majority of the 6 metric tons generated each day in this country alone. Every 1000-megawatt reactor produces 25.4 metric tons of spent nuclear fuel waste every year, totaling nearly 3,000 tons nationwide annually. By 2010, it is anticipated that there will be 70,000 tons of spent nuclear fuel, which is over 1 million times more radioactive than unused fuel, but as of now, 2/3 of this fuel has not been used yet!! Imagine how much energy, money, and headaches we could save if we did not use this unused fuel! In addition, the projected capacity of Yucca Mountain is 70,000 tons. So, if Yucca Mountain opens in 2010, it will be filled as soon as it opens, and we will be right where we are now, asking the same question: What do we do with all this nuclear waste! It doesn’t take a rocket scientist to state the clear and apparent answer: Stop producing it!

**Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a potential geologic repository. The investigations and evaluations consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The results of the program have provided information for the EIS and other Departmental documents. In addition, various independent entities including the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government reviewed the results of the site characterization program.

The NWPA requires the Nuclear Regulatory Commission to include in its authorization of the repository a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste in the repository until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

**1.1 (4859)**

**Comment** - EIS001665 / 0004

My objections to burying long-lived, high-level nuclear include: Yucca [Mountain] was chosen more for political expediency than geological suitability.

**Response**

In 1987, Congress amended the Nuclear Waste Policy Act of 1982 by selecting Yucca Mountain as a potential location for a monitored geologic repository. The Act directs DOE to determine whether Yucca Mountain is suitable for a geologic repository, and it eliminated Deaf Smith County, Texas, and the Hanford Site in Washington, which DOE was studying at the time. Yucca Mountain was selected for study because of its promising characteristics.

**1.1 (5319)**

**Comment** - EIS001887 / 0052

Page 1-9; Section 1.3.2 - Nuclear Waste Policy Act

The discussion of the Nuclear Waste Policy Act contained in this section presents a distorted and revisionist picture of the process that led to the 1987 amendments. The discussion fails to address the serious problems with DOE's implementation of the original Act, congressional investigations that found DOE deficient in its handling of the program, the level of controversy surrounding the program, the highly charged political environment that led to the 1987 amendments, and the purely political criteria that were used to single out Yucca Mountain as the only site to be studied. This information provides essential context for evaluating and understanding impacts associated with the program as it exists today.

**Response**

As discussed in the EIS, the purpose of Section 1.3 and its subsections is to provide background information on the management of spent nuclear fuel and high-level radioactive waste, and to describe the Nuclear Waste Policy Act of 1982 and its key amendments. In this context, this information assists in explaining the organization of the EIS, as discussed in Section 1.5. Given that organization, as influenced by the Nuclear Waste Policy Act information such as that suggested by this comment does not have a bearing on the environmental impacts that could occur from implementation of a Proposed Action to construct, operate and monitor, and eventually close a repository. Furthermore, discussions of the implementation of the original Nuclear Waste Policy Act, Congressional investigations, and the passage of the 1987 amendments are outside the scope of this EIS, which was established by Congress.

**1.1 (6229)**

**Comment** - EIS001560 / 0001

Some of the individuals and groups who may support the transportation plan and the Yucca Mountain plan may sound like they're coming from a position of not in my own back yard. I don't want it stored here so let's find another place, you know, out in the middle of nowhere. But my guess is that they're coming from a no win situation created by, what some previous speakers have been calling, you know, this long time use of an unsafe fuel source that we don't know what to do with the waste. So out of the fear that we have of coming from the effects of the

mistakes that have already been made, we have to find something to do with this. So even if we are expressing some support for a plan that's going to find a place to store this, it's out of no other alternative yet.

**Response**

Chapter 1 of the EIS explains that the Nuclear Waste Policy Act established the Federal Government's responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste and set forth a process and schedule for disposal of these materials in a geologic repository. The Act recognized a need to ensure that spent nuclear fuel and high-level radioactive waste now accumulating at commercial and DOE sites does not adversely affect the public health and safety and the environment [Section 111 (a)(7)].

In 1987, Congress amended the Nuclear Waste Policy Act by directing DOE to determine whether Yucca Mountain is suitable for a geologic repository.

**1.1 (6370)**

**Comment** - EIS000421 / 0003

Moreover, I don't think there should be a single site.

**Response**

The NWPA requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

**1.1 (6517)**

**Comment** - EIS001241 / 0017

If the nuclear waste destined for Yucca Mountain is as safe as DEIS 0250D claims, why does it need to be moved from current storage locations?

As requested/suggested by a DOE representative at the Dec. 9, 1999 public hearing in Crescent Valley, I submit the attached map to indicate the proximity of my land and have to the proximity and alternate rail alignments of the Carlin Route.

**Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a potential geologic repository. The investigations and evaluations consisted of scientific, engineering and technical studies (see Section 1.4.3.1 of the EIS). The results of the program have provided information for the EIS and other Departmental documents. In addition, various independent entities including the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government reviewed the results of the site characterization program.

DOE acknowledges receipt of the map showing the location of the commenter's land.

**1.1 (6753)**

**Comment** - EIS001377 / 0012

The revised Draft EIS must provide a National Exit Strategy from the mining, production, research, testing and use of nuclear materials.

**Response**

Section 1.3.2 of the EIS explains that the NWP directs the Secretary of Energy to study the Yucca Mountain site and recommend whether the President should approve the site for development as a repository. The EIS was prepared as part of the evaluation of the Yucca Mountain Site as a potential location for a repository. Providing a National Exit Strategy on the mining, production, research, testing, and use of nuclear materials is outside the scope of this EIS as established by Congress.

**1.1 (6888)**

**Comment** - EIS001611 / 0002

I heard two bits of information that was put on the record earlier today which I believe is erroneous, and I would ask that in future hearings or in future public situations, that the DOE take the lead and correct these misinterpretations. The first that I constantly hear is that this project is going to consolidate 77 sites into one site and isn't that environmentally better. Well, it is, but that's not going to happen for a long period of time. In fact, it's illegal to reduce the number of sites, the spent fuel pools and simultaneously run nuclear power plants. So the correct figure is really that the Yucca Mountain project is adding the 78th facility until such time as the reactors begin to shut down.

You cannot operate a nuclear reactor in this country unless you have an operating spent fuel pool. So Yucca Mountain, the DOE needs to go on record publicly saying this is actually the 78th high level radioactive waste facility until such time as the nuclear power plants shut down.

**Response**

Spent nuclear fuel will continue to accumulate at commercial nuclear reactor sites while the reactors are operating. In the short term, development of a repository would reduce the need to expand waste storage capacity at the reactor sites.

**1.1 (6955)**

**Comment** - EIS001807 / 0003

In drafting a plan to deal with highly radioactive waste, I encourage the Department of Energy to form a special methodology for dealing with such waste. Safety must be its chief concern.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. Section 1.3.1 of the EIS discusses the background of the national effort to manage spent nuclear fuel and high-level radioactive waste that ultimately resulted in the 1981 Record of Decision announcing the DOE decision to pursue mined geologic disposal (46 FR 26677, May 14, 1981). The Nuclear Waste Policy Act of 1982 recognized a need to ensure that spent nuclear fuel and high-level radioactive waste accumulating at commercial and DOE sites do not adversely affect public health and safety and the environment [Section 111(a)(7)].

The repository would operate only if DOE demonstrated that it would meet public health and safety standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission. These standards limit the amount and timing of releases from the repository so that public health and safety would be protected. DOE would design and operate the repository to meet such standards. In the vicinity of the repository – the area within 80 kilometers (50 miles) of Yucca Mountain – DOE estimates that no individual would receive more than a few millirem (a thousandth of a rem) per year during the operations/preclosure period (see Sections 4.1.2 and 4.1.7 of the EIS) or during the 10,000-year period after the repository was closed (see Section 5.4). Based on the results of these analyses, DOE has concluded that the repository would provide a high degree of long-term isolation of spent nuclear fuel and high-level radioactive waste (consistent with the radiation protection standards in 40 CFR Part 197).

**1.1 (7168)**

**Comment** - EIS001337 / 0059

Page 1-1 The purpose and need of the environmental impact statement described here should make explicit reference to the potential use of the document in informing the Secretary of Energy, the President and the Congress regarding the need for new legislation.

**Response**

Under the NWSA, if DOE decided not to proceed with the development of a repository at Yucca Mountain, it would prepare a report to Congress with its recommendations for further action to ensure the safe permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislative authority.

**1.1 (7292)**

**Comment** - EIS001832 / 0030

DOE appropriately considered total inventories of high level radioactive waste and used nuclear fuel in this DEIS.

While the proposed action is limited to the emplacement of the equivalent of 70,000 MTU [metric tons of uranium] of spent nuclear fuel and high-level radioactive waste, the DEIS also addresses the cumulative impacts associated with the disposal of the total projected waste inventory from all other sources. While the emplacement in Yucca Mountain of these additional materials above the 70,000 MTU allowed by the NWSA [Nuclear Waste Policy Act] would require operation of a second repository (NWSA Section 114(d)) or legislative action by Congress, the inclusion of these materials in the DEIS is appropriate as it provides information for future actions and decisionmaking regarding the disposal of these materials.

**Response**

The NWSA requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

**1.1 (7777)**

**Comment** - EIS000817 / 0032

P. S-59 mention of “exceeding” the proposed action inventory of 70,000 MTHM [metric tons of heavy metal] is probably just what will happen and I think people in Nevada realize that. Once you finally get any repository site accepted, that will probably be where everything will go whether kept above ground or below. You will have too much trouble ever siting a second or third repository and you will need the space. It’s inevitable. And you already have impacts from nuclear testing and possible storage of waste at Nellis Air Force Range. How unfair to hit people in Nevada with all this just by a vote of Congress. Wisconsin put up a real fight when DOE was considering a repository in granite in our state, and would again if you tried to site a second repository here -- nonetheless I feel it unfair to dump this all on Nevada.

**Response**

The NWSA requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future, if the Act was not changed to accommodate the additional inventory analyzed in this EIS.

**1.1 (8202)**

**Comment** - EIS000817 / 0094

The comparison to the Manhattan Project worries me. I always think of General Groves saying we had to drop the bomb to prove it works and prove to Congress and the public that they got something for their money. Dr. Ernest Moniz says, “We’ve got to advance toward geological disposal.” Why do we have to? To prove to Congress and the public that we’ll get our money’s worth? I think not. Yucca Mountain has become a movement forward by its own inertia because scientists want to do it. But they will all be “long gone” by the time humans are affected by the disaster they created. It is too big a risk.

**Response**

As described in Chapter 1 of the EIS, Congress has determined through passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act also requires that the Federal Government take precautions to ensure that these materials do not adversely affect this and future generations.

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-NAS 1957). In 1976, the Energy Research and Development Administration (another predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and launching waste into the sun. In 1981, DOE determined (46 *FR* 26677, May 14, 1981) that it would pursue mined geologic disposal.

The apparent advantages of a geologic repository are that it would not require perpetual human care and it would not rely on the stability of society for thousands of years into the future. Rather, it would rely on a series of barriers, natural and engineered, to contain the waste for thousands of years and to minimize the amount of radioactive material that could eventually escape from a repository and reach the human environment.

**1.1 (8257)**

**Comment** - EIS001950 / 0001

I believe it is unethical to continue to study Yucca Mountain as the only site for HLRW when the nation's waste producers, both Military and civilian, are currently producing and have plans to produce more of the wastes. Eventually the proposed action (if approved) will be filled. What is protecting Nevada from being targeted for future waste?

**Response**

The NWPA requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

**1.1 (8509)**

**Comment** - EIS001032 / 0004

You have a responsibility to the citizens in this country, not to the nuclear and electrical utility lobbies who buy the elections of our congress people, who are waiting to act upon your recommendation. You must tell them three simple things: 1) shipping the waste is wrong, 2) storing the waste on site is the only logical conclusion, and 3) you are changing your name to the DOAE (the Department of Alternative Energy).

**Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a potential geologic repository. The investigations and evaluations consisted of scientific, engineering and technical studies (see Section 1.4.3.1 of the EIS). The results of the program have provided information for the EIS and other Departmental documents. In addition, various independent entities including the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government reviewed the results of the site characterization program.

Virtually every expert group that has examined the disposal of high-level radioactive waste has agreed that a geologic repository is the best approach. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). Their May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), reaffirms this position. The National Research Council maintains that “geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management.” This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

#### **1.1 (9049)**

**Comment** - EIS001866 / 0006

The notice of intent (NOI) for the preparation of an environmental impact statement (EIS) for a repository at Yucca Mountain states that the need for a repository is not required to be considered. However in an effort to provide an unchallengeable need, the NOI clearly states in the background section -- (page 9) that the action (the Yucca Mountain repository) is being taken in accordance with the Nuclear Waste Policy Act of 1982 which was passed “in response to the continued accumulation of spent nuclear fuel (SNF) and high-level radioactive waste (HLW).” A repository will not address or resolve the issue of continued accumulation of SNF at the nation’s commercial nuclear reactors. Waste removed from reactor pools will create available space for new waste being removed from the core, so waste will continue to accumulate at each reactor until shutdown of the plant. If the need or intent of the action is to respond to or halt future accumulation of waste, then the best alternative is the “No Action” which initially calls for the evaluation of continued accumulation of waste. If adopted, this action would lead to cessation of reactor operations thereby halting production and accumulation of new waste at commercial plants.

#### **Response**

The NWPA requires DOE to prepare a Final EIS to accompany any site recommendation the Secretary makes to the President. The purpose of this EIS, as stated in Chapter 1, is to address the actions DOE proposes to take to develop a repository at Yucca Mountain. In addition, the EIS considers systems for the transportation of spent nuclear fuel and high-level radioactive waste from 77 sites to Yucca Mountain. It analyzes potential environmental impacts of constructing, operating and monitoring, and eventually closing a repository for the disposal of spent nuclear fuel and high-level radioactive waste. Addressing the future accumulation of waste or the elimination of nuclear power are issues that are outside the scope of this EIS.

#### **1.1 (9858)**

**Comment** - EIS001888 / 0424

[Clark County summary of comments it has received from the public.]

DOE needs to look at what is being done in France and other places with the nuclear waste. It isn’t fair for the waste to come to Nevada. Trying to decide whether to move my family from Nevada if Yucca Mountain is licensed.

#### **Response**

Section 1.3 of the EIS provides background information on the management of spent nuclear fuel and high-level radioactive waste. Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-NAS 1957). In 1976, the Energy Research and Development Administration (another predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and launching waste into the sun. Based on the results of these investigations and the analyses of the *Final Environmental Impact Statement Management of Commercially Generated Radioactive Waste* (DIRS 104832-DOE 1980), DOE determined in a Record of Decision issued in 1981 (46 FR 26677, May 14, 1981) that it would pursue mined geologic disposal.

In 1982, Congress enacted the Nuclear Waste Policy Act, which acknowledged the Federal Government’s responsibility to provide permanent disposal of the Nation’s spent nuclear fuel and high-level radioactive waste. The Act began a process for selecting sites for technical study as potential geologic repository locations. In 1986, DOE recommended three sites (Deaf Smith County, Texas, the Hanford Site in Washington, and Yucca Mountain)

for study as repository site candidates. Congress amended the law through the Nuclear Waste Policy Amendments Act of 1987, directing DOE to determine whether Yucca Mountain is suitable for a geologic repository.

The advantage of a geologic repository is that it would not require perpetual human care and would not rely on the stability of society for many thousands of years into the future. Rather, it would rely on a series of barriers, natural and engineered, to contain the waste for thousands of years and to minimize the amount of radioactive material that could eventually escape and reach the human environment. All countries pursuing geologic disposal use the multibarrier approach, though the barriers differ (DIRS 101779-DOE 1998). The German disposal concept, for example, relies heavily on the geologic barrier, a rock salt formation, at the prospective disposal site. The Swedish method, on the other hand, relies heavily on thick copper waste packages to contain waste. The U.S. approach, as recommended in the 1979 Report to the President by the Interagency Review Group on Nuclear Waste Management (DIRS 100149-Interagency Review Group on Nuclear Waste Management 1979) is to design a repository in which the natural and engineered barriers work as a system, so no barriers would fail for the same reason or at the same time. This design strategy is called defense-in-depth.

France has not selected a candidate site for a high-level radioactive waste repository, although it has begun construction of an underground research laboratory at Bure (Meuse Haute-Marne) in eastern France. In 1990, public opposition led to a moratorium on repository site selection. The Waste Act of 1991 established a legislative framework for disposition of high-level and long-lived intermediate-level wastes and initiated a 15-year research program in three areas:

1. Separation and transmutation of long-lived isotopes in waste
2. Disposition in deep geologic formations (via underground research laboratory tests)
3. Immobilization processes and long-term surface storage

According to the 1991 Act, the French government will submit an overall assessment of the three research areas to Parliament by 2006. At the same time it will submit a draft law authorizing, if appropriate, the creation of a repository for high-level and long-lived wastes. Geologic disposal must provide advantages over other options, in particular, separation and transmutation, and surface storage. Considerations of retrievability or reversibility must be included in repository design. The feasibility of spent nuclear fuel disposal in deep geologic formations is also being studied.

France generates 75 percent of its electricity by nuclear power and reprocesses spent nuclear fuel extensively. This differs from the United States, where reprocessing of commercial spent nuclear fuel is prohibited due to proliferation concerns. However, even with reprocessing and the development or use of other technologies such as separation and transmutation, there would still remain a significant quantity of high-level radioactive waste material requiring ultimate disposal. In the United States, there is also a large quantity of defense high-level radioactive waste that requires disposal after immobilization.

### **1.1 (10101)**

#### **Comment** - EIS001739 / 0003

I am dismayed because somehow -- I don't want my government to do my thinking for me. I don't want them to come into my personal life and make my decisions for me, but by-golly I expect my government and its agencies to protect me; to protect me, to protect my home and to protect my children's future.

#### **Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

**1.1 (10216)**

**Comment** - EIS001888 / 0578

[Clark County summary of comments it has received from the public.]

Several commenters indicated that the EIS should address the inequities and the “political” and related aspects of the process by which Yucca Mountain site was elected for study by Congress. Issues raised by the commenters included: (1) siting a repository at Yucca Mountain considering that the original NWP [Nuclear Waste Policy Act] required selection of a first site west of the Mississippi River and a second site east of the Mississippi River, (2) the validity of the NWP given that the state was viewed as politically weak and that comparative evaluations among sites are not possible.

**Response**

Section 1.3.2 of the EIS discusses the evolution of the Nuclear Waste Policy Act and how Congress chose Yucca Mountain as the only location for study as a potential repository site. The Act, passed by Congress in 1982, began a process for selecting sites for technical study as potential repository locations. DOE nominated nine sites for further consideration, and published environmental assessments for five of them in May 1986. In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. It eliminated Deaf Smith County, Texas, and the Hanford Site in Washington, which were under study at the time.

DOE has modified Section 1.4.1 of the EIS by adding additional discussion of why Congress selected Yucca Mountain as the only site for study as a potential repository site.

**1.1 (10528)**

**Comment** - EIS002159 / 0003

This is one of their own statements stating like -- I know that these people are intelligent somewhere, but it's just they don't act like it, and the next statement is like they're talking about natural disaster and they go on to say acts -- excuse me. Natural disasters are a dramatic example of people living in conflict with the environment, period.

And they go on to say sustainable development implies not only disaster resistance, but also resource efficiency. The prudent use of energy, water and materials to ensure supplies for future generations. Well, at first glance this facet of sustainable development may seem unrelated to a disaster prevention. In truth, they are intrinsically tied, and this is from your statements. You guys know this stuff and you're not practicing it. This is like disaster planning, curiously stuff you have in here, and that's what's going on with Yucca Mountain. We've got a conclusion that we're trying to back some logic in to back into a conclusion, and yet I think that they're planning a real disaster up there regardless.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act recognizes a need to ensure that spent nuclear fuel and high-level radioactive waste accumulating at commercial and DOE sites do not adversely affect public health and safety and the environment [Section 111(a)(7)].

The repository would operate only if DOE can demonstrate that it would meet public health and safety radiation protection standards and criteria established by the Environmental Protection Agency and the Nuclear Regulatory Commission. In the vicinity of the repository—the area within 80 kilometers (50 miles) of Yucca Mountain—DOE estimates that no individual would receive more than a few millirem (a thousandth of a rem) per year during the preclosure period (see Sections 4.1.2 and 4.1.7) or during the 10,000-year period after the repository was closed (see Section 5.4).

**1.1 (10647)**

**Comment** - EIS001965 / 0010

Before addressing our particular concerns with respect to this “environmental impact analysis,” we wish first to comment on the selection process in general. According to the DEIS, the Nuclear Waste Policy Act acknowledged the “Federal Government’s responsibility” to provide for permanent disposal of our nation’s spent nuclear fuel and

high-level radioactive waste. (DEIS at 1-9). This Act, set in motion a process whereby three “repository site candidates” were identified and approved. The DEIS goes on to note, that in 1987, Congress “significantly amended” the Act to single out only one of the sites for study. (Id.). Provisions in the Nuclear Waste Policy Act as amended in 1987 allow the DOE to prepare an environmental impact statement which doesn’t consider the need for a repository, alternative locations or alternatives to geological disposal. This amendment was attached at the last minute at the urging of the nuclear industry, it was not subject to wide debate or public discussion, hardly the actions of a DOE concerned about the future generations. By not including a needs statement or any alternatives the EIS process is completely subverted. The evaluation of alternatives is the heart of the NEPA process. The DOE was asked to include alternatives during the scoping process in 1995, yet has ignored the public’s requests. The DEIS fails to provide an adequate description of the process by which Yucca Mountain was singled out for exclusive study.

The process, as outlined in the DEIS, fails to provide the reader with any insight whatsoever into the decision-making process that resulted in the need for and purpose of the document. From what one is presented with in the DEIS, it appears simply that Nevada lacks the political strength to defend itself. Without any discussion of the reasoning behind the singling out [of] Yucca Mountain, the Act appears undemocratic at best and fraudulent at worst. With ever increasing skepticism directed towards our Congress and political system, the need for truly open and honest democratic discourse cannot be debated. The DEIS needs to assure the reader that the purpose and need for the project are well reasoned and accurately reflect the reality of the situation.

#### **Response**

Chapter 1 of the EIS explains that the Nuclear Waste Policy Act of 1982 established the Federal Government’s responsibility to provide permanent disposal of the Nation’s spent nuclear fuel and high-level radioactive waste and set forth a process and schedule for disposal of these materials in a geologic repository. The Act recognized a need to ensure that the materials now accumulating at commercial and DOE sites do not adversely affect the public health and safety and the environment [Section 111 (a)(7)]. In addition, it requires the Secretary of Energy to submit a Final EIS if recommending whether the President approve a site for the development of a repository [Section 114(a)(D)]. DOE believes that Chapter 1 adequately describes the purpose and need for the repository.

#### **1.1 (10794)**

##### **Comment** - EIS002170 / 0006

The EIS needs to include the following:

Considering the magnitude of this problem, and the longevity of the dangerous materials created, decommissioning of all toxic long half-life nuclear waste creating industries should be part of this study. The government, etc., is ignoring the fact that the source of this problem is not being discontinued, but is indeed being encouraged to create even more waste by giving them more storage space!

#### **Response**

Congress’ enactment of the Nuclear Waste Policy Act in 1982 established the Federal Government’s responsibility to provide permanent disposal of the Nation’s spent nuclear fuel and high-level radioactive waste and set forth a process and schedule for the disposal of these materials in a geologic repository. In 1987, Congress amended this Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository.

The NWPA requires DOE to prepare a Final EIS to accompany any recommendation submitted to the President to approve Yucca Mountain for development as a repository. Consistent with the NWPA, DOE developed this EIS, which analyzes potential environmental impacts of constructing, operating and monitoring, and eventually closing a repository for the disposal of spent nuclear fuel and high-level radioactive waste. The issues of whether nuclear power should be eliminated as a source of electricity for this country, and the decommissioning of nuclear powerplants, are outside the scope of this EIS.

#### **1.1 (10892)**

##### **Comment** - EIS000431 / 0004

The government has some of the smartest people in the world working for them. I can’t believe that Yucca Mountain was the best they came up with. I think it is the politicians that agree to do the project to make them look good to the dumb public. The politicians say to the people that they are getting rid of nuclear waste without giving

any explanations. I don't have a solution, just that you get those smart people [and] lock them up for however long it takes. I am sure that they will come up with some good ideas and then investigate those ideas. Out [of] all the ideas I bet there is one out there that will solve the problem at hand.

**Response**

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a report from the National Academy of Sciences to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-National Academy of Sciences 1957). In 1976, the Energy Research and Development Administration (another DOE predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and rocketing waste into the sun. Based on the results of these investigations and the analyses of the *Final Environmental Impact Statement Management of Commercially Generated Radioactive Waste* (DIRS 104832- DOE 1980), DOE determined in a Record of Decision issued in 1981 (46 FR 26677, May 14, 1981) that it would pursue mined geologic disposal.

Virtually every expert group that has examined the disposal of high-level radioactive waste (including spent nuclear fuel) has agreed that a geologic repository is the best approach. For example, a panel of the National Academy of Sciences noted in 1990 that there is a worldwide scientific consensus that deep geologic disposal is the best option for disposing of high-level radioactive waste (DIRS 100061-National Research Council 1990). Their May 2001 report, *Disposition of High-Level Waste and Spent Nuclear Fuel: The Continuing Societal and Technical Challenges* (DIRS 156712-National Research Council 2001), reaffirms this position. The National Research Council maintains that "geologic disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management." This long-term solution would minimize the burden placed on future generations and provide the greatest degree of security from outsiders.

The NWSA directs DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE has conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a repository. The results of the program have provided information for this EIS and other documents. The investigations and evaluations have consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government have reviewed the results of the site characterization program.

The Secretary of Energy will consider this information, as well as the results of the environmental analyses in this EIS and public input, in determining whether to recommend development of the Yucca Mountain site as a repository to the President.

**1.1 (10915)**

**Comment** - EIS000289 / 0010

Now it's on the table also that there is every intention to create a second national repository. When does the expansion end?

**Response**

The NWSA requires the Nuclear Regulatory Commission authorization of the repository to include a prohibition against the emplacement of more than 70,000 metric tons of heavy metal of spent nuclear fuel and high-level radioactive waste until a second repository is in operation. Therefore, a site for a second repository could be considered in the future.

**1.1 (11025)**

**Comment** - EIS000514 / 0003

My brother, his wife, and his mother-in-law and her two children live in Las Vegas. Every time I go down he says, "What do you know about Yucca Mountain?" I go out amongst Las Vegas. I don't hear the sorts of things I hear when I work on the Rocky Mountain Arsenal. I don't hear the kinds of things that, "This is wrong." I hear people that are genuinely afraid of this site. People are afraid of Yucca Mountain.

The State of Nevada – here, I got a little brochure from them. “Why does the state oppose Yucca Mountain?” I think you’ve heard lots of good reasons. You got people from the State of Nevada that go to all of these things. They tell you why they don’t like Yucca Mountain.

What have we got wrong here? We’ve got the people whose land this belongs to say they don’t want it there. We’ve got the state in which this falls saying they don’t want it there. Not only do some 70 percent of the people I understand from the latest poll don’t want it there, the government doesn’t want it there, the representatives don’t want it there. The only people that want it there are the industry people that have something to make a buck off of it.

#### **Response**

As described in Chapter 1 of the EIS, Congress, through passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

The NWPA directs DOE to determine whether Yucca Mountain is suitable for a geologic repository. In response, DOE has conducted a series of investigations and evaluations (the site characterization program) to assess the suitability of the Yucca Mountain site as a repository. The results of the program have provided information for this EIS and other documents. The investigations and evaluations have consisted of scientific, engineering, and technical studies (see Section 1.4.3.1 of the EIS). The Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada, and affected units of local government have reviewed the results of the site characterization program.

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in this EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to recommend to the President the development of a repository at Yucca Mountain. The President would then decide whether to recommend the site to Congress. If so, the Governor or the Legislature of Nevada would have 60 days from the President’s action to submit a notice of disapproval (if that does not happen, the site is approved). Assuming that a notice of disapproval was received, the site would be disapproved unless, during the first 90 days of continuous session of Congress after the notice of disapproval, Congress passed a joint resolution of repository siting approval that the President then signed into law.

#### **1.1 (11110)**

##### **Comment** - EIS001207 / 0001

As the agency implements National Environmental Policy Act (NEPA) in the Yucca Mountain Project, the agency is determining the suitability of an unprecedented project; i.e., the nation’s first “permanent” repository for high-level radioactive waste after the site has been selected, i.e., named in Nuclear Waste Policy Act. No “other candidate site,” as of the date of this correspondence to my knowledge, has ever been considered as an alternative to the Yucca Mountain site. Although, it would seem reasonable to predict that another candidate will be required or that the Yucca Mountain 70,000 metric-ton capacity will require future adjustments to accommodate: 1) the spent nuclear fuel already awaiting disposal, 2) the commercial spent nuclear fuel projected to produced requiring disposal (in civilian nuclear reactor using LEU [low-enriched uranium] fuel), 3) the “uncertainty” of the final disposition of 33 metric tons of surplus-to-national-defense-program needs of nuclear weapons grade plutonium to be recycled “used” in commercial nuclear reactors, and 4) the 17 metric tons of surplus plutonium to be immobilized in ceramic form, sealed in cans, and placed in canisters filled with [borosilicate] glass at the Defense Waste Processing Facility, SRS, Ref: U.S. DEPARTMENT OF ENERGY, RECORD OF DECISION FOR THE SURPLUS PLUTONIUM DISPOSITION FINAL ENVIRONMENTAL IMPACT STATEMENT. Issued January 4, 2000.

##### **“CONCLUSION:**

“The Department of Energy has decided to disposition up to 50 metric tons of plutonium at SRS using a hybrid approach and the MOX [mixed-oxide] approach. Approximately 17 metric tons of surplus plutonium will be immobilized in a ceramic form, placed in cans, and embedded in large canisters containing high-level vitrified waste for ULTIMATE DISPOSAL IN A GEOLOGIC REPOSITORY PURSUANT TO THE NUCLEAR WASTE

POLICY ACT (Emphasis added). Approximately 33 metric tons of surplus plutonium will be used to fabricate HGX fuel, which will be irradiated in existing domestic, commercial reactors. The reactors are the Catawba Nuclear Station near York, South Carolina; the McQuire Nuclear Station near Huntersville, North Carolina; and the North Anna Power Station near Mineral, Virginia. THE RESULTING SPENT FUEL WILL BE PLACED IN A GEOLOGIC REPOSITORY PURSUANT TO THE NUCLEAR WASTE POLICY ACT” (emphasis added). Ibid. page 29.

It is apparent (and transparent) that the Department of Energy has either already determined that the Yucca Mountain Site is to be receptor of 33 metric tons of excess plutonium after recycling in commercial nuclear reactors (named in January 4, 2000 DOE ROD [Record of Decision]) and to “ultimately” receive 17 metric tons of surplus plutonium after processing and “placement” at DOE SRS [Savannah River Site], or alternative site to Yucca Mountain has yet to be “named” pursuant to revisiting of the language of Nuclear Waste Policy Act, after-the-fact and late in the process. Reinventing the Nuclear Waste Policy Act by belated reinterpretation would involve [considerable] deception, as would siting Yucca Mountain as designed to capacity of 70,000 metric tons with “annex” already in planning stages.

DOE Yucca Mountain Site Characterization Office has obligation to coordinate with other DOE agency actions to determine whether Yucca Mountain’s design capacity (70,000 metric tons) will accommodate/hold the 17 metric tons of surplus plutonium to be processed at SRS, and the metric tons of spent nuclear fuel to be generated from recycling 33 metric tons of surplus plutonium as MOX fuel. How much high-level radioactive waste will be generated from 33 metric tons of plutonium irradiated in commercial reactors as MOX fuel?

It would certainly appear that DOE and others, through various actions, are re-designing/retro-fitting either the Yucca Mountain Site and/or the Nuclear Waste Policy Act or both. NEPA [National Environmental Policy Act] process, as well as democratic process would seem to suffer considerable harm, i.e., discredit by any such “re-designing” of the process by any agencies.

In spite of considerable pressures from political forces, DOE cannot reasonably proceed with agency actions that essentially throttle and strangle democratic process in order to, in the larger perspective, save democracy! Although, the agency has made some attempt at articulating “purpose and need” in ROD Surplus Plutonium Disposition Final Impact Statement of 1/4/2000 in support of a cooperative agreements between the United States and Russia to reduce the threat of nuclear weapons proliferation world-wide by “disposing of surplus plutonium in a safe, secure, environmentally acceptable and timely manner.” (Ref: 1/4/00, ROD, pg. 3) Some obvious DOE 1/4/00 ROD contradictions require mention for consideration by DOE Yucca Mountain Site Characterization Office.

- 1) DOE determination in ROD 1/4/00 is to meet THE SPENT FUEL STANDARD (that surplus plutonium be made roughly as inaccessible and unattractive for weapons production as the much larger and growing stock of plutonium in civilian spent nuclear fuel) by “recycling”/generating MOX fuel from 33 metric tons of surplus weapons grade plutonium. Given the fact that plutonium produced in commercial nuclear reactors can be used in nuclear weapons (although the United States has not done so), the “unattractive” and “inaccessible” Spent Fuel Standard appears by terminology only much more significant in advancing nonproliferation of nuclear weapons by foreign countries than is actually accomplished. DOE has met THE SPENT FUEL STANDARD by ROD 1/4/00 by decision to produce SPENT FUEL-- which the U.S. has never historically used in the production of nuclear weapons! Logic would require conclusion that meeting the Spent Fuel Standard accomplishes nonproliferation of the U.S. surplus Pu [plutonium] by making it “unattractive” to the U.S. only!
- 2) Potential “benefit” of disposition of excess Pu in forms meeting the Spent Fuel Standard include:

Lay(ing) the essential foundation for parallel disposition of exceed Russian plutonium, reducing risks that Russia might threaten U.S. Security by rebuilding its Cold War nuclear weapons arsenal, or that this material might be stolen for use by potential proliferators.

Russia is presently reported to be in process of rebuilding its weapons arsenal, conventional, and high-tech. Russia’s “weakness” in conventional forces has recently motivated a New Doctrine which would allow its leaders to use all existing forces--including nuclear weapons to oppose any attack, conventional, or nuclear.

Nuclear weapons formerly were to be used to defend sovereignty. It would appear that Russia intends to significantly increase spending on its military forces--which makes surplus plutonium a potentially valuable and saleable commodity. "[Putin] Calls for Increase in Weapons Spending," 1/28/2000, THE LEDGER INDEPENDENT, pg. 7-A. It would certainly seem apparent that meeting the Spent Fuel Standard has little, if anything, to do with nuclear nonproliferation as priority item on Russia's current agenda. Has DOE program-wide considered the potential sources for funding available to Russia to rebuild its nuclear and conventional arms program?

- 3) Threat of theft and terrorist attack of surplus plutonium increases during transport. (Ref.: DOE ROD 1/4/00, Disposition of Surplus Plutonium.) Considerable transport prior (from DOE stockpile storage to processing facilities), during processing, to the six nuclear reactor[s] for use, and after--as disposal/repository waste pursuant to The Nuclear Waste Policy Act is required in DOE ROD of 1/4/00.
- 4) DOE decision to "recycle" surplus U.S. weapons grade plutonium, may in all probability, proliferate plutonium rather than keep it out of "the wrong hands." Should foreign nations follow the U.S. lead in the use of MOX in commercial reactors, plutonium (not of the purity of U.S. weapons grade) will, in fact, be produced. See "Iran's Nuclear Progress a Worry," THE CINCINNATI ENQUIRER, Jan. 18, 2000, pg. A-4.

"Even through Iran ratified the Nuclear Nonproliferation Treaty in 1970 and since 1992 ... it has repeatedly tried to overcome the major weakness in its program--the lack of either enriched uranium or plutonium. Since the early 1990's, Iran has been purchasing equipment that could be used in peaceful or nuclear weapons program from Russia, China, and European countries.

"Russia is helping complete construction of Iran's primary nuclear reactor at Bushehr, and Moscow is training Iranian nuclear scientists." (Ref.: IBID.)

Argument with some misgivings in DOE ROD of 1/4/00 indicates foreign nations may, in fact, "misread" the signals being sent by decision to use MOX fuel in U.S. commercial nuclear reactors. Furthermore, the U.S. sent a somewhat "mixed" signal by recent Congressional failure to ratify the Nuclear (Weapons) Non-proliferation Treaty. DOE decision to recycle 37 metric tons of Pu surplus to program needs would seem highly unlikely to send higher priority signal to foreign nations, including Russia. Bluntly stated, foreign nations certainly appear to be "sending the U.S. nuclear weapons signals" which DOE should consider in agency decision-making process!

### **Response**

This EIS analyzes potential environmental impacts of the Proposed Action to construct, operate and monitor, and eventually close a geologic repository for disposal of spent nuclear fuel and high-level radioactive waste at Yucca Mountain. Decisions made in the Surplus Plutonium Disposition EIS Record of Decision (65 FR 1608, January 11, 2000) are outside the scope of this EIS. However, DOE considered public input during the preparation of that EIS (DIRS 118979-DOE 1999) and in the decisionmaking process leading to its Record of Decision. As explained in that EIS and its Record of Decision, nuclear nonproliferation is a major objective of the Surplus Plutonium Disposition Program. Consistent with findings of the National Academy of Science (DIRS 154884-Holdren et al. 1995), alternatives meeting the Spent Fuel Standard would offer major nonproliferation and arms reduction benefits in comparison to leaving the material in storage in weapons-usable form. DOE believes that the Preferred Alternative selected in that Record of Decision meets this objective.

The comment correctly points out that the Surplus Plutonium Disposition EIS (DIRS 118979-DOE 1999) indicates that spent mixed-oxide fuel and immobilized plutonium would be sent to a geologic repository pursuant to the Nuclear Waste Policy Act. However, that EIS does not specify Yucca Mountain as the site for the repository, only that the material would be sent to a repository. References in the Surplus Plutonium Disposition EIS to disposition in a geologic repository do not imply that there has been a decision to site the repository at Yucca Mountain. In fact, DOE has made no decision to dispose of spent nuclear fuel or high-level radioactive waste at the proposed repository at Yucca Mountain. After the completion of the Final EIS, the Secretary of Energy will determine whether to recommend approval of the site to the President for the development of a repository. If there is such a determination, the President will then decide whether to recommend the site to Congress.

**1.1 (11344)**

**Comment** - EIS002268 / 0005

In drafting a plan to deal with this, I encourage the DOE to form a new methodology and a new method for dealing with such waste. Safety must be its chief concern. The DOE, which is charged with promoting nuclear power, may need to excuse itself from the disposal process.

**Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act established a process that will lead to a determination by the Secretary of Energy on whether to recommend that the President approve Yucca Mountain for development of a geologic repository. To date, the Secretary has not made such a determination.

The repository would operate only if DOE could demonstrate that it would meet public health and safety standards established by the Environmental Protection Agency and the Nuclear Regulatory Commission. The repository would be designed and operated to meet such standards.

**1.1 (11401)**

**Comment** - EIS002257 / 0002

The other thing I have to say is that a lot of people that are here, you are playing Russian roulette with our lives. The problem is you are not -- pointing the gun toward yourselves; you are pointing it at millions of people out there. And the thing is, just because the gun hasn't gone off yet, doesn't mean the gun isn't going to go off.

**Response**

As described in Chapter 1 of the EIS, Congress has determined, through the passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act established a process that will lead to a determination by the Secretary of Energy on whether to recommend that the President approve Yucca Mountain for development of a geologic repository. The Secretary will make the determination regarding such a recommendation based in part on the Final EIS.

The repository would operate only if DOE could demonstrate that it would meet public health and safety standards established by the Environmental Protection Agency and criteria developed by the Nuclear Regulatory Commission. DOE would design and operate the repository to meet such standards. In the vicinity of the repository – the area within 80 kilometers (50 miles) of Yucca Mountain – DOE estimates that no individual would receive more than a few millirem (a thousandth of a rem) per year during the operations/preclosure period (see Sections 4.1.2 and 4.1.7 of the EIS) or during the 10,000-year period following repository closure (see Section 5.4). Based on the results of these analyses, DOE has concluded that the repository would provide a high degree of long-term isolation of spent nuclear fuel and high-level radioactive waste (consistent with the radiation protection standards in 40 CFR Part 197).

**1.1 (11476)**

**Comment** - EIS002247 / 0004

I want to know why hasn't there been new amendments to the Nuclear Waste Policy Act, seeing that the last amendment in '87, the screw Nevada bill -- they tried to say that Yucca Mountain is the only site to be looked at.

As we already see, Yucca Mountain is not suitable, so when is this next amendment coming in? And how can we make sure that gets passed?

**Response**

In 1987, Congress amended the Nuclear Waste Policy Act of 1982 by selecting Yucca Mountain as a potential location for a monitored geologic repository. The Act directs DOE to determine whether Yucca Mountain is suitable for a geologic repository and it eliminates Deaf Smith County, Texas, and the Hanford Site in Washington from characterization. DOE is not aware of any planned amendments to the Nuclear Waste Policy Act.

**1.1 (11768)**

**Comment** - EIS000574 / 0003

It's very upsetting for me to come here and see 13-year-old children that are trying to make a statement to try to educate the leaders of our country, to making reasonable and sensible decisions that aren't motivated by money and greed.

The reason that we don't hear about what's happening in our country is because the media has been bought up and controlled. General Electric owns one major television station network, Westinghouse owns another. They are two companies that manufacture nuclear equipment and build nuclear sites.

I think that it's an abomination that we should have to endure the injustices and the absolute shameful representation by our representatives, and I am appalled that my money that I work hard for and that my family has to live on should go for such insane things.

**Response**

As described in Chapter 1 of the EIS, Congress has determined through passage of the Nuclear Waste Policy Act of 1982, that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act also requires that the Federal Government take precautions to ensure that these materials do not adversely affect this and future generations. In 1987, Congress amended the Nuclear Waste Policy Act by selecting only Yucca Mountain as a potential location for a monitored geologic repository. The Act directed DOE to determine whether Yucca Mountain is suitable for a geologic repository and eliminated Deaf Smith County, Texas, and the Hanford Site in Washington, which DOE was studying at the time.

DOE has a site characterization program to evaluate and assess the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for the EIS. The program consists of scientific, engineering, and technical studies and activities. DOE used information from this program to prepare the EIS. The EIS is one of many documents the Secretary of Energy will use in determining whether to recommend Yucca Mountain to the President for development of a repository. To date, the Secretary has not made a decision about such a recommendation.

**1.1 (11770)**

**Comment** - EIS000609 / 0001

The law establishing Yucca Mountain as the site for burial was introduced by a man from Massachusetts, I think his name might have been McKey. At any rate, it was a stipulation that burial should not be in granite. That startled me because granite is part of the rigid earth, crust of the earth. It's the stable part of the crust of the earth, and burial should certainly be in the stable part of the crust of the earth, not in the unstable part. And anything west of the Wasatch is unstable.

Now that was introduced, I'm sure, I have never been told this, but I happen to understand it because there's lots of granite in New England. Of course, they don't want the stuff up there. But we don't want it here either.

And we have some granite nearby in the Sierras. The Sierra Nevada batholith is a very large body, and the central part of that in Yosemite and so forth is very stable. Along the eastern edge of it, it is not stable. It is a major fault block that's tilting westward and has raised and is raised on the eastern side. Near that fault area, it's unstable, and on eastward into Nevada it's unstable.

But the stable part of the crust of the earth is the thing that ought to be most likely considered, and in Scandinavia, as demonstrated by the DOE, the burial is in granite or granitic rock, and that's because it is stable.

**Response**

In 1987, Congress amended the Nuclear Waste Policy Act of 1982 by selecting Yucca Mountain as a potential location for a monitored geologic repository. The Act directs DOE to determine whether Yucca Mountain is suitable for a geologic repository, and it eliminated Deaf Smith County, Texas, and the Hanford Site in Washington, which DOE was studying at the time.

In 1995, the National Academy of Sciences issued *The Technical Bases for Yucca Mountain Standards* (DIRS 100018-National Research Council 1995). That report, prepared at the request of Congress for the Environmental Protection Agency, indicates that Yucca Mountain is stable and has been stable, in terms of its basic structure and geological setting, for a million years. Earthquakes are likely, and their potential impacts are part of the performance evaluation reported in the EIS. Volcanic activity is unlikely, but DOE has evaluated it in the EIS in terms of the risk of a dose from such an unlikely event.

**1.1 (11773)**

**Comment** - EIS000530 / 0001

I cannot understand why Yucca Mountain was chosen as a site for nuclear waste. The Las Vegas area has traffic problems, accidents constantly, it is a major tourist area, and has an exploding population.

Transporting and storing such hazardous waste with these circumstances considered makes you realize this is a major catastrophe waiting to happen.

I was born in Las Vegas, left, and returned five years ago. My children have moved here from California, also. We had planned on retiring here. If this project goes through we are going to relocate, as well as the rest of our family. Our son who is fourteen loves it here and had planned on going to UNLV [University of Nevada, Las Vegas]. Even at this age he has decided if nuclear waste is brought here he will leave, too.

**Response**

Section 1.3.2 of the EIS discusses the evolution of the NWP, and how Congress selected Yucca Mountain as the only location for study as a potential repository site. The Nuclear Waste Policy Act of 1982 began a process for selecting sites for technical study as potential locations for a geologic repository. DOE nominated nine sites for further consideration and issued environmental assessments for five of the sites in May 1986. In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to determine whether Yucca Mountain is suitable for a geologic repository. It eliminates Deaf Smith County, Texas, and the Hanford Site in Washington from characterization.

Chapters 4, 5, 6, 8, and 10 of the EIS describe potential short- and long-term impacts from the repository program, including waste transport in Nevada.

**1.1 (12227)**

**Comment** - EIS001832 / 0003

This DEIS is not an isolated event in the Yucca Mountain decision-making process. It is, rather, a key link in an ongoing chain of events leading up to a presidential decision in 2001 on whether to approve the development of a repository at Yucca Mountain. The events that have preceded this DEIS form the foundation from which it was developed. Accordingly, a soundly based interpretation of this document can best be made in the context of these prior events.

Yet, as presented, the DEIS does not well establish its historical context for the public. Figure S-2 does present an accurate timeline that shows the major historical milestones, however, little discussion is provided. This leaves the public without an appreciation for the unique, single option, nature of this DEIS for a federally mandated project. It is, therefore, not surprising that the public may question the fact that alternatives to Yucca Mountain, indeed to geologic disposal itself, are not considered in this document.

The answer to these questions is that DOE was mandated by Congress to consider no alternatives to Yucca Mountain in the required NEPA [National Environmental Policy Act] process. Congress was fully cognizant of the considerable previous study of alternatives when, in 1987, it directed DOE to study only Yucca Mountain and, in 1992, reaffirmed this direction. In directing DOE to study only Yucca Mountain, Congress specifically stipulated that DOE's EIS for the project need not consider alternatives to Yucca Mountain (see comment II). This decision had a sound basis. The 1980 EIS on "Management of Commercially Generated Radioactive Waste," the 1981 Record of Decision choosing mined geologic disposal, and the 1986 Environmental Assessments of five candidate geologic disposal sites (including Yucca Mountain) form the substantive technical and environmental policy basis available to Congress when it acted. The decade of scientific work that went into these previous NEPA actions was significant and conclusive. Although each of these actions [is] indicated in the timeline of Figure S-2, their meaning

and importance is not communicated in the summary. This is unfortunate, since an understanding of decisions that have already been made would greatly assist the public in understanding the unique position this DEIS has as an information component the Yucca Mountain decision-making process. DOE needs to assure that the decision-making framework already established is clearly communicated as an integral part of this DEIS.

**Response**

DOE agrees that it is important for stakeholders to understand the historic context of the Yucca Mountain Project. Section S.2.2 of the EIS Summary provides an overview of this context. In addition, Section 1.3.1 provides background information on the 1981 DOE decision to pursue mined geologic disposal for the Nation's spent nuclear fuel and high-level radioactive waste (see 46 *FR* 26677, May 14, 1981). Section 1.3.2 describes the evolution of the Nuclear Waste Policy Act, which began the process for selecting sites for study as potential sites for geologic repositories.

**1.1 (12336)**

**Comment** - 010317 / 0015

Though both the DEIS and the DEIS-S contained some sections on the historical search for a U.S. high-level nuclear waste repository, they failed to tell the full story which includes efforts begun in the 1950's and study sites in southeastern U.S. salt domes.

**Response**

Section 1.3 of the EIS describes briefly the history of efforts to manage spent nuclear fuel and high-level radioactive waste. Referenced reports in Section 1.3 provide detailed information about the history of waste disposal. The Department does not believe that these details are needed in the EIS.

## **1.2 Decisions on the Proposed Action**

**1.2 (77)**

**Comment** - 75 comments summarized

Commenters stated that, based on the original siting guidelines, Yucca Mountain should be eliminated as a site for a nuclear waste repository and that "wishing will not turn Yucca Mountain into a suitable geologic repository." Commenters also stated that, rather than disqualifying the site based on existing criteria, Congress and DOE have changed and weakened the site suitability criteria, and the new criteria will not be sufficient to protect public health and safety. Commenters also requested that the criteria remain unchanged. With respect to the revised criteria, commenters questioned why there are no specific disqualifiers and what specific conditions at the Yucca Mountain site would cause DOE to recommend site disqualification.

**Response**

DOE has not proposed to amend its general guidelines (10 CFR Part 960) to avoid the elimination of the Yucca Mountain site from consideration. Rather, the purpose of the new Yucca Mountain-specific guidelines (10 CFR Part 963) is to implement the NWPA, given the regulations and criteria of the Environmental Protection Agency (40 CFR 197) and the Nuclear Regulatory Commission (10 CFR 63), and to provide a technical basis to assess the ability (or performance) of a geologic repository at Yucca Mountain to isolate spent nuclear fuel and high-level radioactive waste from the environment.

The Nuclear Waste Policy Act of 1982 [Section 112(a)] directed the Secretary of Energy (and by extension, DOE) to issue general guidelines for the recommendation of sites for characterization, in consultation with certain Federal agencies and interested Governors, and with the concurrence of the NRC. These guidelines (issued in 1984 at 10 CFR Part 960) were to include factors related to the comparative advantages among candidate sites located in various geologic media, and other considerations such as the proximity to storage locations of spent nuclear fuel and high-level radioactive waste, and population density and distribution.

In 1987, amendments to the Nuclear Waste Policy Act specified Yucca Mountain as the only site DOE was to characterize. For this reason, DOE proposed in 1996 to clarify and focus its 10 CFR Part 960 guidelines to apply

only to the Yucca Mountain site (to be codified at 10 CFR Part 963), but never issued these guidelines as final. In 1999, DOE proposed further revisions to the draft Part 963 guidelines for three primary reasons:

1. To address comments that criticized the omission of essential details of the criteria and methodology for evaluating the suitability of the Yucca Mountain site.
2. To update the criteria and methodology for assessing site suitability based on the most current technical and scientific understanding of the performance of a potential repository, as reflected in the DOE report, *Viability Assessment of a Repository at Yucca Mountain* (DIRS 101779-DOE 1998).
3. To be consistent with the then-proposed site-specific licensing criteria for the Yucca Mountain site issued by the NRC (the Commission has since promulgated these criteria at 10 CFR Part 63), and the then-proposed site-specific radiation protection standards issued by the Environmental Protection Agency (EPA has since promulgated these standards at 40 CFR Part 197).

In 2001, DOE promulgated its final 10 CFR Part 963 guidelines to establish the methods and criteria for determining the suitability of the Yucca Mountain site for the location of a geologic repository. These final guidelines are principally the same as those proposed in 1999.

With respect to disqualifying conditions at Yucca Mountain, the 1984 DOE general guidelines (10 CFR Part 960) include explicit disqualifiers to guide the Department's assessment of multiple sites under consideration for repository development. At that time, failure to meet the qualifying condition of any guideline was a basis for removing a site from further consideration. The current standards do not contain explicit disqualifiers, but failure to meet the Environmental Radiation Protection Standards set by the Environmental Protection Agency (40 CFR Part 197) would disqualify the site, as would failure to meet the Nuclear Regulatory Commission requirements of 10 CFR Part 63.

## 1.2 (78)

### **Comment** - 19 comments summarized

Commenters discussed whether DOE should maintain the present schedule for site characterization and decisionmaking. Some commenters advocated maintaining the present schedule because many years of study have occurred, because basic political decisions had been made by Congress, and because of the need to plan for the disposition of spent nuclear fuel and high-level radioactive waste. One commenter stated that "it is now time to review the science and other elements of feasibility for Yucca Mountain and get to the stage of packaging spent nuclear fuel and shipping it safely to the best location for disposal in the United States." Other commenters contended that the schedule should be extended to allow more consideration, either because of the potential for impacts to future generations or because DOE needed to be sure of its decision and needed to have all permits in hand before bringing wastes to Yucca Mountain in order to avoid having to later transport the waste again if problems developed at Yucca Mountain.

### **Response**

DOE's schedule for determining whether to recommend that the President approve the Yucca Mountain site for a monitored geologic repository depends on the completion of its ongoing site characterization studies. DOE is responsible for the ultimate disposition of spent nuclear fuel from commercial utilities and recognizes the need to make its recommendation.

## 1.2 (79)

### **Comment** - 51 comments summarized

Commenters stated that people who live in Nevada should have the final say in what happens to them. Some commenters asked why, if many Nevadans oppose a repository at Yucca Mountain, DOE continues to proceed with the project. Others stated that in a democracy, the government should not be able to force a community to accept dangerous material for permanent storage. One commenter stated that the construction of a repository at Yucca Mountain would be illegal because the people of Nevada, the Governor of Nevada, and the Western Shoshone nation oppose it.

**Response**

The disposal of spent nuclear fuel and high-level radioactive waste is a concern for the country as a whole as well as the State of Nevada. Chapter 1 of the EIS explains that 77 sites in 35 states store these radioactive materials and that developing a geologic repository for disposing of the materials and a system for transporting the materials to a repository has become the focus of a national effort.

The Nuclear Waste Policy Act of 1982 established a process for selecting sites for technical study as potential geologic repository locations. In accordance with this process, DOE identified nine candidate sites, the Secretary of Energy nominated five of the nine sites for further consideration and DOE issued environmental assessments for the five sites. DOE recommended three of the five sites, of which Yucca Mountain was one, for study as repository site candidates. In 1987, Congress amended the Nuclear Waste Policy Act of 1982 directing the Secretary of Energy to perform site characterization activities at the Yucca Mountain site, and, if the site is found suitable, make a recommendation to the President on whether to approve the site for development of a repository. Any approval recommendation is required to be accompanied by a final environmental impact statement.

If the Secretary of Energy makes an approval recommendation, the President must then decide whether to recommend the site to Congress. If the President recommended the site, the legislature or Governor of the State of Nevada would have 60 days in which to submit a notice of disapproval regarding the site designation. This notice of disapproval would become final unless both houses of Congress, within 90 calendar days of continuous session of Congress following receipt of the notice of disapproval from the State, passed a resolution of siting approval, and such resolution later became law. Nevada citizens, through their democratically elected representatives in Congress and in the State Legislature and Governor's office, have had and will continue to have opportunities to make their views known.

**1.2 (81)**

**Comment** - 10 comments summarized

Commenters question DOE's decisionmaking process with respect to the transportation of spent nuclear fuel and high-level radioactive waste. One commenter stated that it is not clear whether the Secretary of Energy's determination whether to recommend the Yucca Mountain site to the President will include consideration of transportation issues. Other commenters stated that the Draft EIS does not provide the information necessary to make transportation mode and routing decisions. Without the necessary information, environmental, socioeconomic, and public health and safety impacts could occur without mitigation. If the proposed repository is approved on the basis of the EIS, DOE will begin to make a substantial commitment of resources to the proposed repository even though the method of transportation to the site has not been determined. This could result in forcing a transportation-related decision that results in unacceptable adverse impacts. This is the scenario the National Environmental Policy Act process is designed to avoid.

**Response**

The Secretary of Energy will consider the potential impacts associated with the transportation of spent nuclear fuel and high-level radioactive waste, among other factors, when determining whether to recommend Yucca Mountain as the site of this Nation's first monitored geologic repository. DOE believes that the EIS adequately analyzes environmental impacts that could result from either the Proposed Action or the No-Action Alternative. This belief is based on the level of information and analysis, the analytical methods and approaches used to represent conservatively the reasonably foreseeable impacts that could occur, and the use of bounding assumptions where information is incomplete or unavailable, or where uncertainties exist.

DOE also believes that the EIS provides the environmental impact information necessary to make certain broad transportation-related decisions, namely the choice of a national mode of transportation outside Nevada (mostly rail or mostly legal-weight truck), the choice among alternative transportation modes in Nevada (mostly rail, mostly legal-weight truck, or heavy-haul truck with use of an associated intermodal transfer station), and the choice among alternative rail corridors or heavy-haul truck routes with use of an associated intermodal transfer station in Nevada.

DOE has identified mostly rail as its preferred mode of transportation, both nationally and in the State of Nevada. At this time, however, the Department has not identified a preference among the five potential rail corridors in Nevada.

If the Yucca Mountain site was approved, DOE would issue at some future date a Record of Decision to select a mode of transportation. If, for example, mostly rail was selected (both nationally and in Nevada), DOE would then identify a preference for one of the rail corridors in consultation with affected stakeholders, particularly the State of Nevada. In this example, DOE would announce a preferred corridor in the *Federal Register* and other media. No sooner than 30 days after the announcement of a preference, DOE would publish its selection of a rail corridor in a Record of Decision. A similar process would occur in the event that DOE selected heavy-haul truck as its mode of transportation in the State of Nevada. Other transportation decisions, such as the selection of a specific rail alignment within a corridor, would require additional field surveys, State and local government and Native American tribal consultations, environmental and engineering analyses, and NEPA reviews.

## **1.2 (243)**

### **Comment** - 68 comments summarized

Commenters said that DOE has already decided to construct, operate and monitor, and eventually close a repository at Yucca Mountain, regardless of scientific evidence disqualifying the site, and without responding to public concerns. These commenters believe that the EIS and the hearing process are a “rubber stamp,” and that DOE is trying to “ram [the repository] down our throats” rather than objectively studying the site. Other commenters stated that the purpose of documents prepared pursuant to the National Environmental Policy Act was to make decisions, not to justify decisions already made, and that the purpose of the National Environmental Policy Act process was to explore Yucca Mountain as a possible site, not to convince the public that Yucca Mountain should be selected. Some commenters said that DOE had concealed negative impacts and manipulated data and assumptions.

Commenters also indicated that DOE efforts show a disregard for human health and safety, and that DOE has disregarded the truth.

### **Response**

After the Department has gathered sufficient information from the site characterization program at Yucca Mountain, elicited public comments on the proposed repository, conducted public hearings in the vicinity of Yucca Mountain on the possible recommendation of the site, and completed the Final EIS, the Secretary of Energy will decide whether to recommend the site to the President for development as a repository. Based on this Final EIS, which includes responses to comments on the Draft EIS and Supplement to the Draft EIS, the Secretary will consider short- and long-term environmental impacts and human health risks from the construction and operation of the repository and from the transportation of nuclear waste to the repository. DOE believes that the EIS accurately describes the type and significance of environmental impacts that could occur if it built and operated a repository at the Yucca Mountain site.

The Nuclear Waste Policy Act of 1982 began a process for selecting sites for technical study as potential geologic repository locations. In accordance with this process, DOE identified nine candidate sites, the Secretary of Energy nominated five of the nine sites for further consideration and DOE issued environmental assessments for the five sites. DOE recommended three of the five sites, of which Yucca Mountain was one, for study as repository site candidates. In 1987, Congress amended the Nuclear Waste Policy Act of 1982 directing the Secretary of Energy to perform site characterization activities at the Yucca Mountain site, and, if the site is found suitable, make a recommendation to the President on whether to approve the site for development of a repository. The NWSA requires that a final environmental impact statement accompany any approval recommendation.

As part of the site characterization process, the Act requires the Secretary to evaluate the geology, hydrology, and other natural barrier characteristics of Yucca Mountain to determine its suitability for a repository. DOE has used information from the site characterization program in preparing the EIS, and has relied on reports and studies sponsored by other Federal agencies, the National Academy of Sciences, the Nuclear Waste Technical Review Board, the State of Nevada, and affected units of local government. The Secretary will base the site recommendation decision in part on whether the repository can satisfy DOE suitability guidelines (10 CFR Part 963), and on whether it would be likely to meet the public radiation protection standards promulgated by the Environmental Protection Agency and the Nuclear Regulatory Commission for a repository at Yucca Mountain, as well as other considerations such as the environmental consequences reported in this EIS (see Section 2.6).

The NWSA (Section 114(f)(2) and (3)) provides that DOE need not consider in the EIS the need for a geologic repository, and alternatives to isolating spent nuclear fuel and high-level radioactive waste in a repository. In

addition, the EIS does not have to consider any site other than Yucca Mountain for development as a repository. This EIS does not analyze alternatives other than the Proposed Action and No-Action Alternative.

Because the NWPA states that DOE need not consider alternatives to Yucca Mountain or geologic disposal, the Department understands that some people reading the EIS might feel that DOE is biased toward the repository. However, in the *Final Environmental Impact Statement, Management of Commercially Generated Radioactive Waste* (DIRS 104832-DOE 1980), DOE evaluated high-level radioactive waste disposal alternatives including very deep borehole disposal, disposal in a mined cavity that resulted from rock melting, island-based geologic disposal, subseabed disposal, ice sheet disposal, well injection disposal, transmutation, space disposal, and no action. In a 1981 Record of Decision (46 FR 26677, May 14, 1981), DOE decided that the mined geologic disposal alternative was the best alternative for the disposition of spent nuclear fuel and high-level radioactive waste.

DOE believes that it has performed site characterization activities, as well as the analyses conducted to support the preparation of this EIS, in an open and honest fashion, consistent with the NWPA and the National Environmental Policy Act. Under no circumstances has DOE manipulated data or assumptions to obtain desired results. The health and safety of potential repository workers and the public are of paramount importance to DOE. If the repository site was approved, DOE would comply fully with Environmental Protection Agency and Nuclear Regulatory Commission regulations (40 CFR Part 197 and 10 CFR Part 63, respectively) that were developed to protect workers and the public. If the site was recommended and approved, the Commission would not license a repository unless DOE could demonstrate with “reasonable expectation” that it could meet the regulatory standards.

## 1.2 (588)

### **Comment** - EIS000127 / 0005

It was brought up before that the scientific peer review studied this EIS this year. They said that the report was highly unreliable, and in fact the review panel concluded predicting how radioactive waste would behave once it is stored in the mountain, “may be beyond the analytical capabilities of any scientific and engineering team.” So we’re trying to do something that we do not have the scientific ability to even study, let alone do. They’re trying to ram it down our throats. We can’t let it happen.

And this is the honesty that we’re having out of this group of people that are writing this document and trying to ram this down our throats.

Proof they’re trying to ram it down our throats, a quote from Dr. Ernest Moniz, the Undersecretary of Energy who’s overseeing the Yucca Mountain research, said, quote: “One way or another, we’ve got to advance towards geological disposal. We’re pushing it hard.”

This is at a point where they’re supposed to be studying if it’s possible, not ramming it down our throats.

### **Response**

As enacted by Congress, the Nuclear Waste Policy Act of 1982 directed DOE to investigate and potentially develop a permanent geologic repository for spent nuclear fuel and high-level radioactive waste in a deep subsurface location that would provide a reasonable assurance of adequate protection for the public and the environment.

The concept of geologic disposal, for decades recognized by scientists world-wide as the best approach, was reaffirmed in a May 2001 report by the National Research Council (DIRS 156712-National Research Council 2001), which stated:

“After four decades of study, geological disposal remains the only scientifically and technically credible long-term solution available to meet the need for safety without reliance on active management. It also offers security benefits because it would place fissile materials out of reach of all but the most sophisticated weapons builders. As in all scientific work, progress in achieving geological disposal has been marked by surprises, new insights, and the recognition that for even the best-characterized sites, there always will be uncertainties about the long-term performance of the repository system. Providing convincing evidence that any repository assures long-term safety is a continuing technical challenge. Never the less, a well-designed repository represents, after closure, a passive system containing a succession of robust safety barriers. Our present civilization designs, builds, and lives with technological facilities of much greater complexity and higher hazard potential.”

Congress, in the Energy Policy Act of 1992, directed the Environmental Protection Agency to develop public health and safety standards for the protection of the public from releases of radioactive materials stored or disposed of in a repository at the Yucca Mountain site. Congress also directed the Nuclear Regulatory Commission to publish criteria for licensing the repository that would be consistent with the radiation protection standards established by the EPA. In part, the EPA standards (40 CFR Part 197) and NRC criteria (10 CFR Part 63) prescribe radiation exposure limits that the repository, based on a performance assessment, must be designed not to exceed during a 10,000-year period after closure.

DOE acknowledges that it is not possible to predict with certainty what will occur thousands of years into the future. The National Academy of Sciences, the Environmental Protection Agency, and the Nuclear Regulatory Agency also recognize the difficulty of predicting the behavior of complex natural and engineered barrier systems over long periods. The NRC regulations (see 10 CFR Part 63) acknowledge that absolute proof is not to be had in the ordinary sense of the word, and the EPA has determined (see 40 CFR Part 197) that reasonable expectation, which requires less than absolute proof, is the appropriate test of compliance.

The statement by Dr. Moniz was likely not intended to indicate his desire to push geologic disposal, regardless of site characterization results. Rather it was an expression of the DOE desire to advance the program as rapidly as sound science would support to minimize the expenditure of taxpayer and nuclear ratepayer funds.

## **1.2 (849)**

**Comment** - EIS000173 / 0014

Guideline: 960.5-2-6 Preclosure Disqualifying Condition for Socioeconomic Impacts:

A site shall be disqualified if repository construction, operation, or closure would significantly degrade the quality, or would significantly reduce the quantity, of water from major sources of offsite supplies presently suitable for human consumption or crop irrigation and such impacts cannot be compensated for, or mitigated by, reasonable measures.

This guideline as written does not expressly apply to the post-closure phases of repository performance, however isolation of nuclear waste from the environment, including groundwater is implicit in the goal of the repository program. Therefore we assert that this Guideline is relevant to the assessment of Yucca Mountain.

The expectation of the Guidelines was that the geologic barrier of the site would limit radionuclide releases from the repository through time, such that environmental contamination away from the repository would not be significant. Now, as discussed, the picture is quite different. The expected performance of a Yucca Mountain repository will result in significant amounts of radionuclides degrading the quality of off-site supplies of groundwater that are presently suitable for and used for human consumption and crop irrigation. Current land use in the Yucca Mountain area includes large-scale milk production. With 92% of milk comprised of water, our children may eventually be drinking radionuclides for breakfast, lunch, and dinner.

DOE intends for the contamination to occur during the long postclosure period, and affect much of the ground water in the Amargosa Valley before it is finally discharged to the ground surface where contaminants will be reconcentrated. Compensation for this degradation, as allowed for in the Guideline, is impossible. If mitigation were feasible, it would have to be included in the repository assessment; it is not.

The ability to avoid significant groundwater degradation after closure of the repository should be no less a siting requirement that it is before and during closure. These Guidelines were designed to prevent the emplacement of high-level nuclear waste at a site that is known to contaminate water supplies. Omission of this disqualifying factor from the Post-Closure Guidelines was in actuality an affirmation of the national commitment in the Nuclear Waste Policy Act to assuring the long-term isolation of radioactivity from the environment.

## **Response**

Consistent with the Energy Policy Act of 1992, the Environmental Protection Agency has established Yucca Mountain-specific radiation protection standards (40 CFR Part 197, Environmental Radiation Protection Standards for Yucca Mountain, Nevada). Groundwater protection standards (40 CFR 197.135) are a key element of these regulations. Also consistent with the Energy Policy Act of 1992, the Nuclear Regulatory Commission has

established final requirements for Disposal of High-Level Radioactive Waste in a Proposed Repository at Yucca Mountain, Nevada (10 CFR Part 63) for the proposed repository that are consistent with the radiation protection standards established by the Environmental Protection Agency.

As indicated in Chapter 5 of the EIS, overall human health impacts to Amargosa Valley residents would be small. The hypothetical person studied to calculate human health impacts would live year-round in the Valley, eat locally produced foods, and drink water from potentially contaminated sources. This is consistent with the reasonably maximally exposed individual defined in the Environmental Protection Agency regulations at 40 CFR 197.21.

DOE published the Supplement to the Draft EIS to focus on recent design enhancements (resulting in a flexible design) that would allow the repository to be operated in a range of higher- and lower-temperature modes. This design offers key enhancements for repository long-term performance and was carried forward to the Final EIS. As indicated in Section 5.4.2 of the Final EIS, analysis of the design using new model formulations and updated and improved data showed that the mean peak annual dose 18 kilometers (11 miles) from the repository would be near zero for the first 10,000 years after closure. The peak annual individual dose (95<sup>th</sup> percentile) would occur approximately 410,000 years after closure and would be approximately 620 millirem. The mean peak annual individual dose within 1 million years was calculated to be 150 millirem at 480,000 years. The dose to the reasonably maximally exposed individual would depend strongly on distance from the repository. Farther from the repository, the dose rates would be much lower.

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses of the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to recommend development of a repository at Yucca Mountain to the President.

## **1.2 (1150)**

**Comment** - EIS000087 / 0007

The money that could be saved by designing to the lesser standard or the higher emissions is in the billions of dollars.

I suggest to them -- them, the government, all of you people and more, too, look at the potential economics of paying every man, woman, child here in the valley a million bucks apiece, providing them with fair market value or even extraordinary market value for their properties, project the business incomes of the businesses that are here, buy everyone out and you'd be millions -- billions of dollars ahead of where you're headed.

## **Response**

DOE is designing the proposed geologic repository at the Yucca Mountain site to the standard required to protect public health and safety and the environment, both in the short term and the long term. DOE does not believe it is appropriate to design to any lesser standard, and then attempt to buy out potentially affected landowners. Affected landowners might not be willing to sell for a variety of personal reasons, and forcing them to sell would create an undue hardship. Foremost, however, this could create essentially a "sacrifice zone" around the repository site. DOE does not believe these are desirable, or responsible, outcomes.

## **1.2 (1988)**

**Comment** - EIS000515 / 0005

What I find most troubling has been the response to a petition to the Secretary of Energy in November 1998, and signed by more than 200 environmental and public interest groups. The document expressed concern about the failure of the Yucca Mountain site to pass site suitability guidelines established by the DOE for the burial of radioactive waste.

Among the facts documented in the petition are that the site of the Yucca Mountain repository is as seismically active as the California bay area, having experienced more than 600 earthquakes within a 50-mile radius of the proposed burial site within the last 20 years.

The DOE response was not to address the concerns with more scientific technological research, but to change the site suitability guidelines. If we set a precedent for violating our own safety guidelines on Yucca Mountain, what compromises await us on other environmentally flawed projects that may lie ahead?

More importantly, what is the message we send to the private contractors who will carry the waste on the highways and railways when we blatantly violate our own safety standards? What if, in an effort to make a profit, the privatized carriers follow the DOE example of compromising safety standards? What will be the financial liability when an accident occurs? Are the private carriers protected from lawsuits by individuals harmed by toxic exposures? What will be the liabilities of the federal government in the case of contamination of an area, and the individuals who live within it? Will the burden fall once again upon the taxpayers?

If the past behavior of the nuclear industry and the federal government reflects the future behavior of both entities in responding to the pleas of workers for addressing nuclear safety issues and nuclear illness issues, I fear we are in grave danger.

### **Response**

As discussed in EIS Section 1.3.2.4, Section 121 of the NWSA directs the Environmental Protection Agency (EPA) to establish generally applicable standards to protect the general environment from offsite releases of radioactive materials in repositories and directs the Nuclear Regulatory Commission to issue technical requirements and criteria that it will apply in approving or disapproving applications for such repositories. In 1992, Congress passed the Energy Policy Act of 1992. Section 801(a) of the Energy Policy Act directs the EPA to retain the National Academy of Sciences to conduct a study and issue findings and recommendations on setting reasonable standards for protecting public health and safety in relation to a repository at Yucca Mountain. Section 801(a) also directs the EPA to establish specific standards for Yucca Mountain based on and consistent with the Academy's findings and recommendations. The National Academy of Sciences issued its findings and recommendations in a 1995 report (DIRS 100018-National Research Council 1995). The EPA established the standards in 40 CFR Part 197, Environmental Radiation Protection Standards for Yucca Mountain, Nevada. The regulations specify limits on annual committed effective doses resulting from any radioactive releases from a repository at Yucca Mountain and groundwater protection standards.

Section 801(b) of the Energy Policy Act directs the Nuclear Regulatory Commission to revise its general technical requirements and criteria for geologic repositories to be consistent with the Environmental Protection Agency's site-specific Yucca Mountain standards (10 CFR Part 60). The NRC has issued site-specific technical requirements and criteria [10 CFR Part 63, Disposal of High-Level Radioactive Wastes in a Proposed Repository at Yucca Mountain, Nevada, which it would use to evaluate an application from DOE to construct a repository at Yucca Mountain, to receive and possess spent nuclear fuel and high-level radioactive waste at such a repository, and to close and decommission such a repository.

The NWSA requires the Secretary of Energy to issue general guidelines for use in recommending potential repository sites for detailed characterization [Section 112(a)]. DOE issued these guidelines in 1984 (10 CFR Part 960). The guidelines described DOE policies applicable to the three sequential stages of the siting process in the NWSA (preliminary site screening, site nomination, and site selection for recommendation to the President). In 1996, DOE published proposed amendments to the guidelines to reflect the prevailing scientific view on how to evaluate the suitability of the Yucca Mountain site for development of a nuclear waste repository (61 *FR* 66158; December 16, 1996). Because Congress had by that time required DOE to focus only on Yucca Mountain, the Department's proposed amendments dealt with provisions of the guidelines that were applicable to the site recommendation stage. In November 1999, DOE revised its 1996 proposal to focus on the criteria and methodology to be used for evaluating geologic and related aspects of the Yucca Mountain site (64 *FR* 67054; November 30, 1999). DOE has finalized its guidelines at 10 CFR Part 963.

DOE did not revise its guidelines because of any conditions found at the Yucca Mountain site. Pursuant to Congressional direction, DOE established the bases for the site suitability criteria it would use and the methodology for applying the criteria to a design for a proposed repository at the Yucca Mountain site. In any event, failure to meet the Environmental Protection Agency standards or the Nuclear Regulatory Commission criteria for licensing would result in a decision by the Nuclear Regulatory Commission not to license the Yucca Mountain site.

With respect to financial liability in the event of an accident, the Price-Anderson Act establishes a system of private insurance and Federal indemnification that generally ensures that as much as \$9.43 billion is available to compensate for damages suffered by the public in a nuclear accident or incident, regardless of who causes the damages. The liability of all responsible parties is limited to the amount of coverage provided by the Price-Anderson system. State and local governments cannot be required to provide additional compensation.

In addition to Price-Anderson indemnification, all motor vehicles carrying spent nuclear fuel or high level radioactive waste are required by the Motor Carrier Act of 1980 (42 U.S.C. 10927) and implementing regulations (49 CFR Part 387) to maintain financial responsibility of at least \$5 million. Such financial responsibility would be available to cover public liability from a non-nuclear incident and for environmental restoration. Federal law does not require rail, barge, or air carriers of radioactive materials to maintain liability coverage, although those carriers often voluntarily carry such insurance. Regardless of whether the carriers had insurance, a radioactive material incident involving them would be subject to state law that is applicable for any type of accident.

## **1.2 (1990)**

**Comment** - EIS000524 / 0001

Well, I'm really not too fond of the idea of a nuclear waste site in my town, but if the government has it's heart set on this, there is really not much I can do.

## **Response**

Nevada residents, through their democratically elected representatives in Congress, the State Legislature, and the Governor's Office, have had and will continue to have opportunities to make their views known.

## **1.2 (2042)**

**Comment** - EIS000570 / 0002

It's bad enough that the nuclear waste dump is going to be rammed down our throats, but lowering the standards in order to make Yucca Mountain qualify is adding insult to injury. Nevada is almost as far away as one can get from the generators of the waste, and the transportation of it is very, very scary.

In "The Republic" Plato coined a term called the tyranny of the majority, and the tyranny of the majority simply defined is when one majority group imposes conditions on a minority group which they themselves would not agree to. And we have many examples of this throughout history.

We have examples that led up to the civil rights movement. Examples of the white majority treating African Americans differently, treating the Western Shoshone in specific differently. Giving them conditions that they themselves would not wish on themselves.

Another term for this might be called domestic imperialism. I noticed that DOE is very quibbling to say there is no nuclear waste coming from foreign governments to our lands.

Well, what about domestic imperialism? What about the fact this waste is coming from places and states where they are benefiting from nuclear energy, they are creating nuclear waste, and yet 75 percent of Nevadans have said no to nuclear energy and nuclear waste? We're not generating it here, but we're supposed to take the conditions of its existence.

That's what I call domestic imperialism. And my hat's off, even though they have already left, to all the young people that were here. There is a group that I think understands the term domestic imperialism. A minority that has conditions imposed upon them the majority does not follow.

They cannot vote. They cannot drive yet. They got on a bus and got here to speak about their future. They didn't create this waste, but they are going to have to live with it.

The Western Shoshone are another group which understand the term domestic imperialism and take it very seriously. Anybody who has ever had their land stolen out from under them, anybody who has read the Ruby Valley Treaty will take that term domestic imperialism seriously. I think as a whole Nevadans have shown that they are taking it seriously.

I would just like the DOE and the federal government to take the term domestic imperialism seriously because history has shown you cannot keep a minority group down for long. They will come back up, they will bite you in your back, and that's exactly what will happen if you do not listen to the minority you're stepping on here today.

**Response**

The NWPA established a comprehensive process for determining the suitability of Yucca Mountain as a repository and whether DOE should build and operate a monitored geologic repository at the site. After publication of this Final EIS, the Secretary of Energy must determine whether to recommend the site to the President. If there was such a recommendation, the President would decide whether to recommend the site to Congress. If the President made such a recommendation, the State of Nevada would have 60 days to submit a notice of disapproval. At this point the site would be disapproved unless Congress passed an approval resolution within 90 calendar days of continuous session. Nevada residents, through their elected representatives in Congress and in the State Legislature and Governor's Office, have had and will continue to have opportunities to make their views known.

Section 121 of the Nuclear Waste Policy Act directs the Environmental Protection Agency to establish generally applicable standards to protect the environment from offsite releases of radioactive materials in a repository and directed the Nuclear Regulatory Commission to issue technical requirements and criteria for such repositories. In 1992, Congress passed the Energy Policy Act of 1992. Section 801(a) of that Act directs the Environmental Protection Agency to retain the National Academy of Sciences to conduct a study and issue findings and recommendations on setting reasonable standards for protecting public health and safety in relation to a repository at Yucca Mountain. Section 801(a) also directs the Environmental Protection Agency to establish specific standards for Yucca Mountain based on and consistent with the Academy's findings and recommendations. The National Academy of Sciences issued its findings and recommendations in a 1995 report (DIRS 100018-National Research Council 1995). The Environmental Protection Agency established the standards in 40 CFR Part 197, Environmental Radiation Protection Standards for Yucca Mountain, Nevada. The regulations specify limits on annual committed effective doses resulting from any radioactive releases from a repository at Yucca Mountain, and groundwater protection standards.

Section 801(b) of the Energy Policy Act directs the Nuclear Regulatory Commission to revise its general technical requirements and criteria for geologic repositories to be consistent with the Environmental Protection Agency's site-specific Yucca Mountain standards (40 CFR Part 197). The Nuclear Regulatory Commission has issued site-specific technical requirements and criteria (10 CFR Part 63, Disposal of High-Level Radioactive Wastes in a Proposed Repository at Yucca Mountain, Nevada), which it would use to evaluate an application from DOE to construct a repository at Yucca Mountain, to receive and possess spent nuclear fuel and high-level radioactive waste at such a repository, and to close and decommission such a repository.

DOE understands that there are strong opinions and passionate beliefs about the Ruby Valley Treaty of 1863 and that the Yucca Mountain area is sacred to the Western Shoshone. At present, the land encompassing the Yucca Mountain site is Federally owned, as documented by a U.S. Supreme Court decision that says payment for the land has been made, that payment constitutes a final settlement, and that Western Shoshone tribal land claims to the land are invalid. DOE will not debate the Supreme Court decision on the Ruby Valley Treaty of 1863. The Department will abide by current and any potential future rulings on the Treaty. Section 3.1.1.4 of the EIS acknowledges the issue over the Treaty but does not present new analysis on the issue or speculate on future Western Shoshone positions.

**1.2 (2351)**

**Comment** - EIS000644 / 0002

I was going to go through the book and say a lot of things about different things I saw there. I was amazed at the amount of money spent, the amount of people working there, to try to prove that this would work, and they are the ones that are saying to me in the background that, no, it isn't going to work, but the government wants to pay me, I'll take the money.

Well, folks, I hope that is one thing that we can kill them on. This is the National Environmental Policy Act of 1969. If you read it really close there is a couple of good paragraphs in here that will put Yucca Mountain back to Yucca Mountain and not a Yucca Mountain repository.

**Response**

In determining whether to make a recommendation to the President to develop a repository at Yucca Mountain, the Secretary of Energy will consider the results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

The Department believes that the EIS is consistent with the National Environmental Policy Act.

**1.2 (3715)**

**Comment** - EIS001079 / 0002

Even more troubling is the fact to help ensure approval of the site, Congress undermined key provisions of the National Environmental Policy Act (NEPA) with respect to the Yucca Mountain project. NWP [the Nuclear Waste Policy Act] as enacted limited the scope and extent of the evaluation of potential environmental impacts normally required in an environmental impact statement under NEPA. Specifically, NWP exempts the Yucca Mountain environmental impact statement from consideration of: the need for a repository; the time of initial availability of the repository; alternative sites to Yucca Mountain; and alternatives to geologic disposal of high-level waste. Congress has, in other words, significantly diminished the inherent value of conducting an environmental impact statement, in an apparent attempt to rubber stamp NEPA approval on the project.

**Response**

The purpose of the National Environmental Policy Act is to promote an understanding of the environmental consequences of Federal actions before decisions are made. The Act does not prohibit activities that might harm the environment; rather, it requires Federal agencies to disclose the extent of such environmental harm, and any environmental benefits, to the public and agency decisionmakers. DOE believes that the EIS appropriately describes the type and magnitude of environmental impacts that could occur if it constructed, operated and monitored, and eventually closed a repository at the Yucca Mountain Site.

DOE believes that the EIS is consistent with the National Environmental Policy Act.

**1.2 (4396)**

**Comment** - EIS000813 / 0003

The mandate by Congress, that no alternative sites to Yucca Mountain need to be established, seems most unreasonable; we, as Nevadans, are being coerced into accepting a site, which has been rejected by other states. So here we are forced by power politics to accept what is being rammed into our landscape. This is no issue for power politics.

**Response**

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

**1.2 (4969)**

**Comment** - EIS001326 / 0003

I have learned from history that the worst things happen to people who don't have a way out. Before you start this project be sure to have a way out.

**Response**

From the start of emplacement until closure, there would be continuous monitoring of the repository through an elaborate system of sensors and administrative inspections. A post-permanent-closure monitoring program is required by Nuclear Regulatory Commission regulations (10 CFR Part 63). These regulations include requirements for monitoring activities that would occur around the repository after DOE closed and sealed it.

As discussed in Section 4.2 of the EIS, DOE has considered the impacts of retrieving material from the repository. Although the Department does not anticipate retrieval, and it is not part of the Proposed Action, DOE would maintain the ability to retrieve the waste for at least 100 years and possibly more than 300 years in case retrieval became necessary to protect public health and safety or the environment or to recover resources from spent nuclear fuel. Section 4.2 also discusses impacts from above-ground storage prior to waste emplacement.

**1.2 (5244)**

**Comment** - EIS001887 / 0008

The NEPA [National Environmental Policy Act] analysis in the document is segmented, which can only lead to fragmented decision making. In the State's view, DOE has corrupted the NEPA process by leaving some of the most significant issues and impacts un-assessed. DOE has either refused to assess or purposely postponed key decisions concerning national and local transportation modes and routing alternatives. These actions have conveniently avoided compliance with NEPA tiering requirements.

**Response**

DOE believes that the EIS adequately analyzes environmental impacts that could result from the Proposed Action or the No-Action Alternative. DOE has identified mostly rail as the preferred mode of transportation both nationally and in the State of Nevada. The Foreword of the EIS acknowledges that DOE would need to prepare project-specific National Environmental Policy Act documents before siting, constructing, and operating a branch rail line. In that regard, the EIS assesses the environmental impacts of the proposed repository program, to which DOE would tier (link) later National Environmental Policy Act documents.

**1.2 (5315)**

**Comment** - EIS001887 / 0049

Page 1-3; Section 1.1 - Potential Actions and Decisions Regarding the Proposed Repository

This section must also include a discussion about the need for and/or option to use NEPA [National Environmental Policy Act] supplemental environmental impacts statements to address forthcoming repository related decisions (as per 10 CFR 102.314). State officials contend that DOE will receive substantial public comment on the Draft EIS about the lack of NEPA analysis to support the selection of transportation modes and routes. DOE must advise readers that supplemental EIS documents will be prepared if DOE determines that the purpose of NEPA will be furthered by doing so (40 CFR 1502.9(c)(2)). This section should also note that DOE is required to prepare a supplemental EIS if there are substantial changes in the Proposed Action that are relevant to environmental concerns, or if there are significant new circumstances or information about environmental concerns that would affect the Proposed Action or its impacts (40 CFR 1502.9(c)).

**Response**

To resolve some uncertainties and to provide information on the repository design that became available after the publication of the Draft EIS, DOE published a Supplement to the Draft EIS to provide updated information to the public. The Supplement focused on the most recent base design, including various heat management scenarios. This information was carried forward to the Final EIS.

DOE believes that the EIS adequately analyzes impacts that could result from the Proposed Action or the No-Action Alternative. If Yucca Mountain is approved and if rail is chosen as the preferred mode of transportation, DOE recognizes that additional National Environmental Policy Act studies and documentation for the specific alignment

of a rail route in an identified rail corridor would be necessary, and has stated this in the EIS (see the Foreword and Section 1.1, for example).

**1.2 (6124)**

**Comment** - EIS001654 / 0044

Figure 2-5 shows the array of choices in both repository design and transportation of waste that stakeholders have an opportunity to review and comment upon. We [are] confident that the Department of Energy and other federal agencies involved will consider each of these important factors in developing the best balanced approach to repository design and operations that places safety as the foremost consideration. We urge that the process continue to be open to coordination with State and local governments and other stakeholders and that a public education program continue.

We know that much effort has gone into the site characterization process and that scientific studies have been conducted to help develop preliminary repository designs and operational planning. Program schedules show that there will be several more years of effort and hundreds of millions of dollars expended to refine each of those details to be included in a construction license application to be presented to the independent Nuclear Regulatory Commission for a rigorous review before granting a license now scheduled no sooner than 2005.

**Response**

With regard to programs to coordinate with state and local governments and other stakeholders and to inform the public, DOE intends to continue its practice of meeting regularly with the State of Nevada, affected units of local government, and Native American tribal governments to provide information and identify concerns. In addition, DOE will continue to involve the public in its decisionmaking processes on the proposed Yucca Mountain Repository.

**1.2 (6421)**

**Comment** - EIS001828 / 0001

It is clear that while transportation of nuclear waste to Yucca Mountain remains an uncertainty, nuclear power industry executives are fixated on pushing the process forward with little or no concern for the residents of Southern Nevada. This point is displayed by Rod McCullum of the Nuclear Energy Institute when stating the process should move forward recognizing there is an “involuntary risk” in disposing of nuclear waste. The transportation of nuclear waste poses a clear and undeniable risk to the resident and economy of Southern Nevada. Furthermore, such comments undermine and trivialize the very real concerns we have about the impacts on our communities for years to come.

**Response**

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President’s action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

Chapter 6 of the EIS addresses risks associated with the transportation of spent nuclear fuel and high-level radioactive waste. DOE recognizes that even an incident-free transportation campaign could adversely affect people who lived or worked near the routes. For truck transportation, such effects could include noise and air pollution due to increased truck traffic. For rail transportation, they could include land use and aesthetic impacts as a result of the need to construct a branch rail line to the Yucca Mountain site.

DOE analyzed impacts from transportation accidents. Although traffic accidents would be probable, given the estimated number of shipments, DOE does not believe that any such accident would result in the release of radioactive material, primarily because of the structural integrity of the casks in which it would ship the material.

**1.2 (6704)**

**Comment** - EIS001377 / 0001

In my comments, I will refer to the DOE Draft EIS as “your” Draft to clarify that I hold the authors of this document accountable to all of us living now, to the Ancestors, and to future generations, for the personal decisions they are making to work on this project and for the recommendations they are individually and collectively making to support the DOE “Proposed Action.”

**Response**

Consistent with the regulations on the National Environmental Policy Act promulgated by the Council on Environmental Quality, DOE takes responsibility for the scope and content of this EIS [see 40 CFR 1506.5(c)]. The contributors to the EIS listed in Chapter 13 of the EIS used their respective expertise to describe and analyze the potential impacts of the Proposed Action as accurately as possible.

**1.2 (6821)**

**Comment** - EIS001905 / 0020

The DOE must amend its decision-making process to ensure real public participation always exists.

**Response**

Consistent with the National Environmental Policy Act and the Nuclear Waste Policy Act, DOE has followed a decisionmaking process that encourages public participation. As discussed in Section 1.5.1.1 of the EIS, DOE initiated public scoping in 1995, eventually holding 15 public meetings around the country. This process determined the scope of the EIS and identified issues to be analyzed. The Draft EIS is the result of this process. After issuing the Draft EIS, and again after issuing the Supplement to the Draft EIS, DOE held many public meetings across the country to seek comments on these documents. The Draft EIS hearings were held in 21 locations (two sessions at each location) and three public hearings were held on the Supplement to the Draft EIS. DOE has considered and addressed every comment it received on the Draft EIS and every comment on the Supplement received by August 31, 2001, and has made changes to the EIS as a result of comments received.

**1.2 (7020)**

**Comment** - 010123 / 0004

There should be siting guidelines. There should be a licensing rule. All of these things should have been finalized by using the public comments. I was at all of those hearings and there were a tremendous number of public comments, and we hear that they’re just going along with what was proposed at that time and was highly opposed by the people of Nevada.

So what needs to happen is there needs to be rules in place, then somebody needs to come up with a site characterization plan that actually fits the project then we can go out for scoping on an Environmental Impact Statement.

**Response**

The Nuclear Waste Policy Act [Section 112(a)] directs the Secretary of Energy (and by extension, DOE) to issue general guidelines for the recommendation of sites for characterization, in consultation with certain Federal agencies and interested Governors, and with the concurrence of the Nuclear Regulatory Commission (NRC). These guidelines (issued in 1984 at 10 CFR Part 960) were to include factors related to the comparative advantages among candidate sites located in various geologic media, and other considerations such as the proximity to storage locations of spent nuclear fuel and high-level radioactive waste, and population density and distribution.

In 1987, amendments to the Nuclear Waste Policy Act specified Yucca Mountain as the only site DOE was to characterize. For this reason and given advancements in site characterization, DOE proposed in 1996 to clarify and focus its 10 CFR Part 960 guidelines to apply only to the Yucca Mountain site (to be codified at 10 CFR Part 963), but never issued these guidelines as final. In 1999, DOE proposed further revisions to the still draft Part 963 guidelines.

In 2001, DOE finalized its Part 963 guidelines to be consistent with the site-specific licensing criteria for the Yucca Mountain repository issued by the NRC (10 CFR Part 63) and the site-specific radiation protection standards issued by the Environmental Protection Agency (40 CFR Part 197). DOE’s final guidelines incorporate comments

received during the public comment period held for the 1999 draft revision, including those given at public hearings. The NRC licensing process (10 CFR Part J) provides opportunities for public involvement in the licensing proceedings prior to any decision on Construction Authorization.

A decision concerning whether to recommend the site to the President will be made on the basis of a number of different types of information, including that contained in the Final EIS. Any recommendation would be accompanied not only by the Final EIS, but also by those other materials designated in Section 114 of the NWPA. These include, for example, a description of the proposed repository, preliminary engineering specifications for the facility, a description of the proposed waste form, an explanation of the relationship between the proposed waste form or packaging and the geologic medium of the site, a discussion of the site characterization data that relate to the safety of the site, preliminary comments of the NRC concerning the sufficiency of information for inclusion in any Departmental license application, and the views and comments of the Governor and legislature of any state or the governing body of any affected Native American tribe.

**1.2 (7843)**

**Comment** - EIS001653 / 0032

Pg 2-87 states that the Secretary of Energy is to undertake and complete site characterization activities at Yucca Mountain to provide information and data required to evaluate the site. How is this effort different from the information and analysis in the DEIS?

**Response**

The Nuclear Waste Policy Act established a process leading to a decision by the Secretary of Energy on whether to recommend the Yucca Mountain site to the President for development of a geologic repository. As part of this process, DOE must undertake site characterization activities at Yucca Mountain to provide information and data needed to evaluate the site and prepare an EIS. The Department has an ongoing site characterization program of investigations and evaluations to assess the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for the EIS. The program consists of scientific, engineering, and technical studies and activities. DOE used information from the program in preparing the EIS.

**1.2 (7978)**

**Comment** - EIS000817 / 0044

The more I read on the less I have any confidence you are ready to make any decisions. You have many "options" for every choice and haven't come to the details of anything really. How much waste? In what form? In what package? In what transport? When closed? etc. You are leaving all such decisions to the future. That's how we got in this position in the first place -- leaving the real decisionmaking to the future.

**Response**

DOE believes that the EIS, including the Supplement to the Draft EIS, adequately analyzes the environmental impacts that could result from either the Proposed Action or the No-Action Alternative.

DOE identified mostly rail as its preferred mode of transportation both nationally and in the state of Nevada. At this time, DOE has not identified a preference for a specific rail corridor in Nevada. If the Yucca Mountain site was approved, and if DOE selected rail as the preferred mode of transportation, DOE would identify such a preference in consultation with affected stakeholders, particularly the State of Nevada.

**1.2 (8345)**

**Comment** - EIS001758 / 0002

I believe the proposal being presented today is unacceptable. With all the critical questions that remain regarding the present and future viability of the Yucca Mountain geology and hydrology and its ability to effectively shield the radioactive materials from our environment, I believe that the DOE must step back from this proposal and reevaluate its options.

While the Draft Environmental Impact Statement seeks to demonstrate that it's possible to transport high-level waste across state lines and that a safer permanent disposal facility has been found, I believe such reassurances are unwarranted and premature. So I urge the Department of Energy to go back to the drawing board and defer its

recommendation to Congress and the President until we have conclusive answers to the many troubling questions in this proposal.

**Response**

DOE believes that the EIS adequately analyzes environmental impacts that could result from the Proposed Action. This belief is based on (1) a sufficient level of detail and analysis of the performance of the repository, and of the transportation aspects of the Proposed Action, (2) the analytical methods and approaches used to develop conservative estimates of the reasonably foreseeable impacts that could occur, and (3) the use of conservative assumptions if information was incomplete or unavailable and if uncertainties existed. DOE has identified mostly rail as the preferred mode of transportation both nationally and in the State of Nevada.

**1.2 (8535)**

**Comment** - EIS001596 / 0001

Corporate power forcing upon the public a nuclear energy base which has not functioned on its own since day one. It is fundamentally a boondoggle industry dependent on massive public subsidies that allow it to perpetrate on the public serious harm without the requirement to bear the responsibilities that it creates.

We are in Chicago, the city of the done deal. So I think it is easy to recognize one when we see it. The selection of Yucca Mountain was not based, as some have stated, on the last word in science. There is a great deal of dissension amongst the scientific community about the substance of the geological structure which they have selected.

It is fundamentally an attempt to bail out the corporations and the industry that have hitched their wagon to the nuclear genie and now would like to transfer the liabilities which they have created into the public realm, and use that to justify trying to expand nuclear power at the expense of investment in alternative and renewable sources of energy.

**Response**

The reasonableness of past, present, or future use of nuclear power as an energy source does not diminish the need for the permanent isolation of existing spent nuclear fuel and high-level radioactive waste. The Secretary of Energy has made no decision on the suitability of Yucca Mountain as a geologic repository. As directed by Congress, DOE developed a site characterization program to investigate the suitability of the Yucca Mountain site as a potential geologic repository and to provide information for the EIS. The program consists of scientific, engineering, and technical studies and activities. The Department used the information from the program in preparing the EIS, and has relied on reports and studies sponsored by other Federal agencies, the State of Nevada, and affected units of local government. After publication of the Final EIS, the Secretary of Energy will determine whether to recommend Yucca Mountain to the President for development of a repository.

The NWPA requires DOE to prepare a Final EIS to accompany a Site Recommendation from the Secretary of Energy to the President. Consistent with this requirement, DOE developed this EIS, which analyzes potential environmental impacts of constructing, operating and monitoring, and eventually closing a repository for the disposal of spent nuclear fuel and high-level nuclear waste. The issues of eliminating nuclear power as a source of electricity for this country and decommissioning nuclear powerplants are outside the scope of this EIS.

**1.2 (8641)**

**Comment** - EIS002120 / 0001

For the record, I would like to state that Nye County has maintained a neutral position in this entire process. We neither support nor oppose the repository. Nye County recognizes that it has no role in the decision process and no voice in the outcome of this process. If a repository's identified for Yucca Mountain, Nye County will be forced to accept it. Thus Nye County's role in this entire process is to protect the health and safety of its residents and also under the Nuclear Waste Policy Act to provide technical and oversight of Department of Energy activities at Yucca Mountain.

**Response**

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public

comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

## **1.2 (9189)**

**Comment** - EIS002123 / 0004

I would just like to state a couple of things here about Senator Murkowski and Senator Larry Craig. Senator Craig's from Idaho and Frank Murkowski is of course from Alaska, and "they want to send the nation's nuclear waste, eventually 77,000 tons to Nevada for permanent storage." Let me see here. I'll try to skip down here.

"Craig and Murkowski are gearing up for another debate on the bill to come after Congress resumes. The two will continue to clash with Bryan and Reid, Democrats who are well known for opposing waste storage in Nevada."

"The biggest problem is what to do with the waste in this country." Now get this: "It's a political problem," Craig said. "It's not a scientific problem. It's not an engineering problem. It's purely political."

Not in my backyard, and I tell him, "Mr. Murkowski, not know my front yard, either."

"This is something the country has to do," Craig said. "We cannot sit idly by and let nuclear waste pile up across the country," and you want to know that they've had a lot of nuclear waste stored in Idaho and they just recently shipped it all down to WIPP down in Carlsbad, New Mexico, and even at that, it's some that had been there for 50 years, and I thought to myself boy, that ought to be in great shape to reload and drag it halfway across the country and pass over a lot of states....

"It's safer, cheaper, and more efficient to store the waste in one place," Craig said. "Yucca seems the safest place to store it." He said, "scientists have been studying Yucca for years to determine if it's the best location for waste with no final conclusions." There should never be a conclusion to that one.

"Murkowski assumed the lead role in advocating Yucca because he is chairman of [the] Senate Energy and Natural Resources Committee." He said: "Alaska has no stored nuclear waste." Isn't that a surprise? "I have an obligation to address the oversight and we all have a responsibility to do something with it," Murkowski said.

Well, I can tell you, Mr. Murkowski. Take it up to Alaska. We've had our turn. You take it.

## **Response**

The NWP Act determined that DOE should study the Yucca Mountain site as a possible location for the Nation's first nuclear waste repository. After passage of the Nuclear Waste Policy Act of 1982, Yucca Mountain was one of nine sites DOE identified as potentially acceptable for a repository. Yucca Mountain remained on the list of potentially acceptable sites as that list was narrowed to five and then to three. In 1987, Congress amended the Nuclear Waste Policy Act and directed DOE to characterize only the Yucca Mountain site for its potential suitability for a repository [Section 113(a)]. The Act established a process leading to a determination by the Secretary of Energy on whether to recommend Yucca Mountain to the President for the development of a monitored geologic repository. The Act makes it DOE policy to determine whether geologic disposal at Yucca Mountain would be safe. It does not direct DOE to examine other methods or sites for storage or disposal because those issues had been thoroughly examined during the years before the passage of the Nuclear Waste Policy Act in 1982. For this reason, the EIS does not examine alternative methods or sites for nuclear waste disposal.

## **1.2 (9205)**

**Comment** - EIS002140 / 0002

One of the reasons it's a great spot is because there's so much -- it's so dry. We've got this huge overburden over where the waste is going to be deposited and then they have about 1,000 feet before you get to the water table, and that's really why it was chosen. They looked all over the United States and they found one of the driest spots they could in the United States and that's how it was selected.

**Response**

After passage of the Nuclear Waste Policy Act in 1982, the Yucca Mountain Site was one of nine sites DOE identified as potentially acceptable as a nuclear waste repository, considering such factors as the locations of valuable natural resources, hydrology, geophysics, seismic activity, nuclear defense activities, proximity to water supplies, populations, and public lands such as national parks and national forests. The Yucca Mountain site remained on the DOE list of potentially acceptable sites as the list was narrowed to five and then to three. In 1987, Congress selected Yucca Mountain as the only site for DOE to study as a potential location for a monitored geologic repository.

**1.2 (9483)**

**Comment** - EIS001888 / 0149

[Summary of comments noted by Clark County Nuclear Waste Division staff at various citizens' meetings.]

**HELPLESSNESS**

There was a feeling of helplessness in some people.

Many wanted to do something but felt overwhelmed or that it was futile.

Others commented on feeling overwhelmed and that their effort would be futile.

Feeling that the larger cities, county and state would lead the fight to keep it out of Nevada and that there wasn't much they could do to make a difference.

Feelings of helplessness about stopping waste coming on I-15 through Mesquite – can't pick up and leave jobs and homes.

Interest and concern, but a sense of helplessness against an agency that they perceive as not trustworthy.

**Response**

Thank you for your comment.

**1.2 (9956)**

**Comment** - EIS001888 / 0481

[Clark County summary of comments it has received from the public.]

Commenters requested that the Implementation Plan provide a description of the contents of the Record of Decision. Commenters also requested that the Record of Decision include (1) how, and by whom, costs for emergency preparedness and response along transportation routes would be paid; (2) mitigation measures adopted to avoid or minimize impacts, rectify concerns or conflicts, and to compensate affected parties for unavoidable consequences; (3) mitigation measures that were not adopted and the reasons why; (4) the basis for the decision, and (5) an explanation of alternatives considered and the identification of the environmentally preferable alternative.

**Response**

In response to comments received during the EIS scoping process, DOE prepared the *Summary of Public Scoping Comments Related to the Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada* (DIRS 104630-YMP 1997). As discussed in Section 1.5.1.1 of the EIS, DOE considered all comments received during the scoping process and instituted appropriate changes in the information bases and analytical approach to the EIS. The Department determined that comments calling for it to identify the contents of a Record of Decision were not germane to the scope of the EIS, and thus did not address them in the EIS.

Regarding the Record of Decision, Section 114(a)(1) of the Nuclear Waste Policy Act, as amended, authorizes the Secretary of Energy to decide whether to recommend approval of the Yucca Mountain site to the President for development as a repository for the disposal of spent nuclear fuel and high-level radioactive waste. A comprehensive statement of the basis for the recommendation, including a Final EIS, would accompany such a recommendation. However, the decision to approve the site rests not with the Secretary, but with the President.

Because the President would make this determination, DOE does not anticipate issuing a Record of Decision if the Secretary recommends the site to the President. In determining whether to make that recommendation, the Secretary would consider not only the potential environmental impacts identified in the EIS, but other factors (discussed in Section 2.6 of the EIS), including, for example:

- The ability to obtain necessary approvals, licenses, and permits;
- The ability to fulfill stakeholder concerns;
- Consistency with the DOE mission;
- Assurance of safety;
- Facility construction and operation flexibility;
- The cost of implementation; and
- The ability to mitigate adverse impacts.

Because DOE does not anticipate issuing a Record of Decision for the determination whether to recommend the Yucca Mountain site, it might not prepare a Mitigation Action Plan. However, the Yucca Mountain site, if approved in accordance with provisions of the Nuclear Waste Policy Act, as amended, would be subject to licensing by the Nuclear Regulatory Commission. DOE, in submitting its application to the Commission to construct and operate the repository, would identify relevant commitments, including those identified in the Final EIS, and could reasonably expect a comprehensive set of mitigation measures or conditions of approval to be part of the licensing process. Under Section 180(c) of the NWPA, DOE would provide technical assistance and funds to states and Native American tribes to support training of state, tribal, and local public safety officials to help ensure safe routine transportation and emergency response for shipments to Yucca Mountain. Appendix M of the EIS discusses the provisions of Section 180(c) and DOE's Draft Policy for its implementation.

DOE believes that the EIS adequately analyzes the environmental impacts that could result from the Proposed Action. DOE also believes that the EIS provides the environmental impact information necessary to make certain broad transportation-related decisions, namely the choice of a national mode of transportation outside Nevada (mostly rail or mostly legal-weight truck), the choice among alternative transportation modes in Nevada (mostly rail, mostly legal-weight truck, or heavy-haul truck with use of an associated intermodal transfer station), and the choice among alternative rail corridors or heavy-haul truck routes with use of an associated intermodal transfer station in Nevada.

DOE has identified mostly rail as its preferred mode of transportation, both nationally and in the State of Nevada. At this time, however, the Department has not identified a preference among the five potential rail corridors in Nevada.

If the Yucca Mountain site was approved, DOE would issue at some future date a Record of Decision to select a mode of transportation. Thereafter, for example, if mostly rail was selected (both nationally and in Nevada), DOE would then identify a preference for one of the rail corridors in consultation with affected stakeholders, particularly the State of Nevada. In this example, DOE would announce a preferred corridor in the *Federal Register* and other media. No sooner than 30 days after the announcement of a preference, DOE would publish its selection of a rail corridor in a Record of Decision. A similar process would occur in the event that DOE selected heavy-haul truck as its mode of transportation in the State of Nevada. Other transportation decisions, such as the selection of a specific rail alignment within a corridor, would require additional field surveys, State and local government and Native American tribal consultations, environmental and engineering analyses, and NEPA reviews.

## **1.2 (10010)**

**Comment** - EIS001888 / 0507

[Clark County summary of comments it has received from the public.]

Commenters suggested that the EIS be deferred until funding issues are resolved, new legislation and standards are approved, and a revised program approach is developed. More specifically, the EIS should consider: (1) how the EIS process and assessment of impacts would be affected because of unfunded or underfunded state and county(ies) activities, (2) alternative funding mechanisms if the Nuclear Waste Trust Fund is depleted, and (3) how the EIS process will respond to legislation requiring siting an interim storage facility, and allowing DOE discretion in route

selection and shipping schedules. In addition, these commenters recommended that, until these issues are resolved, DOE should plan on additional scoping meetings or scoping should remain open indefinitely. Commenters also indicated that the resulting implementation plan would be inadequate until these program issues are resolved.

**Response**

As described in Section 1.5.1.1 of the EIS, DOE initiated public scoping in 1995, eventually holding 15 public meetings around the country. The Department used this process to determine the scope of the EIS and to help identify significant issues it would analyze in depth in the EIS. The Draft EIS was the result of this process. How the EIS process or assessment of impacts would be affected by unfunded or underfunded state and county activities, by depletion of the Nuclear Waste Fund, or by legislation on interim storage of nuclear waste are not relevant in an EIS prepared to assess the potential environmental impacts associated with the construction, operation and monitoring, and eventual closure of a geologic repository at Yucca Mountain. Moreover, none of these situations have affected the EIS process.

**1.2 (10306)**

**Comment** - EIS001873 / 0083

Lincoln County Independent Research:

The County, under its federally funded Nuclear Waste Oversight Program, has produced numerous studies containing information concerning local impacts of the Yucca Mountain Project. As the County has stated in comments on the DEIS, the DOE has evidently not made any use of the County effort, which has cost approximately five million dollars to date. Following are some of the findings of the County studies.

A Nevada Local Government Perspective on European Nuclear Waste Management 1990

Following a tour of several European facilities and meetings with various officials, a group of Lincoln County residents concluded that:

Generators not government should be responsible for managing radioactive waste.

Local government should have the power to withhold approval for nuclear waste disposal sites.

**Response**

As discussed in Section 2.5 of the EIS, DOE has received input from a number of organizations including universities, other Federal agencies, the State of Nevada, counties, municipalities, other local governments and Native American tribes. Their input includes documents that present research or information that in some cases disagrees with the views that DOE presented in the Draft EIS. DOE reviewed these documents and evaluated their findings for inclusion as part of the EIS analyses. If the information represented a substantive view, the Department made every effort to incorporate that view in the EIS and to identify its source.

DOE has modified the EIS, as appropriate, to incorporate references by using new information (for example, see new population information in Section 3.1.7.1, and the concept of a representative fuel assembly for repository and transportation accident analyses in Section A.2.1.5).

As described in Chapter 1 of the EIS, Congress determined, through the passage of the Nuclear Waste Policy Act, as amended, that the Federal Government has the responsibility to dispose of spent nuclear fuel and high-level radioactive waste permanently to protect the public health and safety and the environment. The Act goes on to say that the Federal Government needs to take precautions to ensure that these materials do not adversely affect this and future generations.

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the

President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

**1.2 (10522)**

**Comment** - EIS002211 / 0005

This society and government is unqualified to address this issue responsibly. That's what the crux issue is. We don't know what the hell we're doing in plain English. Pardon my French, but I like to emphasize just a little bit here and there. Okay.

We need to set up what I referred to as a nuclear waste priesthood. Don't laugh at that term. I mean a secular priesthood, of course, non-denominational.

The sole purpose would be that would be comprised of individuals and -- who are attained to an utmost higher idealized standard of human spiritual quality effectiveness in terms of reason, integrity, responsibility, morals, ethics and above all conscience to realize what we're dealing with here is capable of causing the extinction of consciousness itself. Think about that while you can still think.

**Response**

DOE is responsible for complying with laws passed by Congress. As described in Chapter 1 of the EIS, through the passage of the Nuclear Waste Policy Act of 1982, Congress determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

**1.2 (10666)**

**Comment** - EIS001966 / 0006

The assumption that the "No Action Alternative" may be based in part upon the Nuclear Waste Confidence Decision, which is circularly based upon Yucca Mountain "progress." It is time for an update of the Nuclear Waste Confidence Decision, particularly now that the January 31, 1998, deadline has passed without removal of the nuclear waste.

**Response**

The Nuclear Regulatory Commission, not DOE, issued the Waste Confidence Decision. DOE did not base the No-Action Alternative on that decision. Rather, the Department based the No-Action Alternative on guidance in the Council on Environmental Quality's "Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations" (46 FR 18026; March 23, 1981). That guidance defines a no-action alternative as "...no change from current management direction or level of management authority..." DOE analyzed the No-Action Alternative to serve as a basis for comparing the magnitude of potential environmental impacts of the Proposed Action.

**1.2 (10919)**

**Comment** - EIS000159 / 0001

Nuclear waste is the deadliest substance known to humans. A few seconds exposure to an irradiated fuel rod causes cancer, a few minutes, death.

Common sense dictates that we treat this material with utmost caution to protect human health and the environment. Any decision regarding this radioactive waste must be based on sound science and protecting the public. Instead, nuclear waste policy in this country has been driven by the arrogance and greed of the nuclear industry and the reckless legislation promoted by industry allies. Political expediency has replaced responsible stewardship, as sound science and decision-making is thrown out the window at the request of the nuclear industry.

We are disappointed that the Department of Energy (DOE) has chosen to continue this trend as evidenced in its continued refusal to follow its own guidelines and disqualify Yucca Mountain while simultaneously seeking to

weaken the guidelines, and in this draft EIS. This draft EIS is an expensive rubber stamp for the Yucca Mountain waste dump. It is not the careful, conservative analysis of safety and environmental issues required of a public agency.

### **Response**

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

Section 121 of the Nuclear Waste Policy Act of 1982 directed the Environmental Protection Agency to establish generally applicable standards to protect the general environment from offsite releases of radioactive materials in any repository and directed the Nuclear Regulatory Commission to issue technical requirements and criteria for such repositories. In 1992, Congress modified the rulemaking authorities of the EPA and the NRC with regard to a possible repository at Yucca Mountain, which Congress selected in 1987 as the only site for DOE to study for a possible repository. Section 801(a) of the Energy Policy Act of 1992 directed the EPA to retain the National Academy of Sciences to conduct a study and issue findings and recommendations on setting reasonable standards for protecting public health and safety in relation to a repository at Yucca Mountain. Section 801(a) also directed the EPA to establish specific standards for Yucca Mountain based on and consistent with the Academy's findings and recommendations. The standards (40 CFR Part 197) set health-based limits for any radioactive releases from a repository at Yucca Mountain.

Section 801(b) of the Energy Policy Act (Public Law 102-486) directs the Nuclear Regulatory Commission to revise its general technical requirements and criteria for geologic repositories to be consistent with the Environmental Protection Agency's site-specific Yucca Mountain standards (10 CFR Part 60). The NRC has issued site-specific technical requirements and criteria (10 CFR Part 63, Disposal of High-Level Radioactive Waste in a Proposed Geologic Repository at Yucca Mountain, Nevada), which it would use to evaluate any application from DOE to construct a repository at Yucca Mountain, to receive and possess spent nuclear fuel and high-level radioactive waste at such a repository, and to close and decommission such a repository.

The Nuclear Waste Policy Act of 1982 required the Secretary of Energy to issue general guidelines for use in recommending potential repository sites for detailed characterization [Section 112(a)]. DOE issued these guidelines in 1984 (10 CFR Part 960). The guidelines described DOE policies applicable to the three sequential stages of the siting process in the Nuclear Waste Policy Act (preliminary site screening, nomination of sites, and site selection for recommendation to the President). In 1996, DOE published proposed amendments to the guidelines to reflect the prevailing scientific view on how to evaluate the suitability of the Yucca Mountain site for the development of a nuclear waste repository (61 *FR* 66158; December 16, 1996). Because Congress had by that time required DOE to focus only on Yucca Mountain, the Department's proposed amendments dealt with provisions of the guidelines that were applicable to the site recommendation stage. In November 1999, DOE revised its 1996 proposal to focus on the criteria and methodology to be used for evaluating geologic and related aspects of the Yucca Mountain site (64 *FR* 67054; November 30, 1999). DOE has finalized its guidelines at 10 CFR Part 963, *Yucca Mountain Site Suitability Guidelines*.

The 1984 DOE general guidelines (10 CFR Part 960) included explicit disqualifiers to guide the Department's assessment of sites under consideration for repository development. At that time, failure to meet the qualifying condition of any guideline was a basis for disqualifying a site. Under the NWPA Congress directed DOE to focus only on Yucca Mountain and, as discussed above, has directed the Environmental Protection Agency and the Nuclear Regulatory Commission to promulgate standards to protect public health and safety. Failure to meet the EPA standards or the NRC criteria for licensing would disqualify the Yucca Mountain site.

**1.2 (11044)**

**Comment** - EIS000475 / 0007

DOE “streamlining” of the NEPA process could more accurately be termed “steamcoiling” over the public and democratic process. Yet, DOE has failed to comply with the agency’s own requirements as outlined for contractors in the “streamlining/steamrolling” process.

If the NEPA [National Environmental Policy Act] process is not completed before the (contract) award the contract work must be made contingent on completion of the NEPA process, and contract work must be phased to allow the NEPA process to be completed in advance of a go/no-go decision.

It is my understanding that DOE is holding public hearings in Las Vegas, Nevada on January 11, 2000 to solicit, include, and respond to comments on the Draft Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada (DOE/EIS-0250D, DOE 1999), yet DOE has already made “go” decision and published that decision in November of 1999 (in another final EIS).

**Response**

DOE has complied with all applicable statutes and regulations in performing site characterization activities at Yucca Mountain, and would continue to do so in the construction, operation and monitoring, and eventual closure of a geologic repository if the site was approved. Chapter 11 of the EIS discusses the statutory and other requirements that apply.

DOE has stated in EISs and Records of Decision for other proposed actions its intention to pursue the disposal of spent nuclear fuel and high-level radioactive waste in geologic repositories. If Yucca Mountain was not approved DOE would have to develop recommendations for further action to ensure the safe, permanent disposal of spent nuclear fuel and high-level radioactive waste, including the need for new legislation.

At the time of publication of the Draft EIS, the Secretary of Energy had not determined whether to recommend the Yucca Mountain site to the President. In determining whether to recommend the site to the President, the Secretary will consider the information and results of the site characterization program, as well as the environmental analyses of the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to recommend development of a repository at Yucca Mountain to the President.

**1.2 (11053)**

**Comment** - EIS000475 / 0010

DOE lessons learned from the splitting of the atom for nuclear weapons/national security must include these past abuses to avoid irreparable harm to democratic process. It-sounds-like-science, fund-the-research/control-the-findings, and outright bullying over the opposition (citizens) is unacceptable in a democracy. To my knowledge, Yucca Mountain has been targeted from 1982 congressional mention as a candidate site/sacrifice zone for the nuclear power industry. DOE has apparently now assigned a larger purpose, i.e., national security in weapons/reactor grade disposal which is a ruse promoted by the nuclear power industry/MOX [mixed-oxide] fuel promoters. One wonders if U.S. citizens are, in fact, in considerably more danger from special interests foreign and domestic, than from foreign military operations.

**Response**

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-NAS 1957). In 1976, the Energy Research and Development Administration (another predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and launching waste into the sun. Based on the results of these investigations, DOE determined in a Record of Decision (46 FR 26677, May 14, 1981) that it would pursue mined geologic disposal. In passing the Nuclear Waste Policy Act of 1982, as amended in 1987, Congress determined that decades of research had been sufficient to conclude that a geologic repository was the safest alternative for waste disposal (see Section 1.3 of the EIS for additional information).

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

## 1.2 (11238)

**Comment** - EIS000126 / 0001

Basically I don't think that the State of Nevada let alone this community [Pahrump] has the clout to stop what you're doing. You know, I'd like to see it stopped, but I have to deal with reality, and I don't see that happening, so my focus has to be well, how can I make it good for me, then?

Nye County's lost a lot of jobs. It's going nowhere, hasn't been going anywhere. This community's going nowhere. It's just a place for people to move and retire. They don't want anything happening here, but I got to look at the young people and their future, and like I said, if I had any choice, I'd like you to take in that stuff wherever it came from and leave it there, but I don't and I don't think it's going to happen, but like I said, I'm going to look at how I can make it sort of positive for me.

## **Response**

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President on whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site is approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

The NWSA provides for funding to the State of Nevada and affected units of local government to participate in the process of characterizing and selecting a site for a geologic repository. In addition, the Act requires DOE to provide financial and technical assistance to the State and affected units of local government to mitigate the impacts of the development of a repository and the characterization of the site. The Act authorizes the State and any affected unit of local government to collect an amount equal to the amount that the State or local government would receive if authorized to tax site characterization activities. If DOE built and operated the repository at Yucca Mountain, the State and local governments would be able to collect an amount equal to the taxes imposed on non-Federal real property and industrial activities. Financial assistance comes from the Nuclear Waste Fund, which is funded by contributions from nuclear utility ratepayers.

## 1.2 (11418)

**Comment** - EIS002288 / 0001

I think that there's one thing missing in the DEIS that has to be included. Every engineering document that I have ever worked on or read has always had the good and the bad.

I think it's important for DOE to say this is our project; this is what's good about it. But you are not God; there's got to be something bad. Let the Congress make the decision. Let them do it. Don't you guys take their job. Give them the plusses and the minuses, and let's see what happens.

**Response**

DOE believes that the EIS adequately analyzes environmental impacts that could result from the Proposed Action or the No-Action Alternative. The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of the State of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

**1.2 (11475)**

**Comment** - EIS002247 / 0003

What about 10 CFR 960.4-2-1? Which basically said that the site is -- the current feasibility guidelines, if the water moves faster in a thousand years from above the site down to the water table, it should be eliminated as a site for under speculation.

So I'd like to know why the site hasn't been eliminated so far and why are the siting guidelines being changed halfway through the project? This seems [like] a little bit of a mistake. Seems like a political move. I know we have spent 7.4 billion dollars so far of our taxpayer money on this project, and now they are changing the siting guidelines in the middle of whether or not the site is suitable. So I want to know about that and why this 963 thing is going on.

**Response**

The Nuclear Waste Policy Act of 1982 required the Secretary of Energy to issue general guidelines for use in recommending potential repository sites for detailed characterization [Section 112(a)]. DOE issued these guidelines in 1984 (10 CFR Part 960). The guidelines described DOE policies applicable to the three sequential stages of the siting process in the Nuclear Waste Policy Act of 1982 (preliminary site screening, nomination of sites, and site selection for recommendation to the President). DOE published proposed amendments to the guidelines in 1996 to reflect the prevailing scientific view on how to evaluate the suitability of the Yucca Mountain site for the development of a nuclear waste repository (61 *FR* 66158; December 16, 1996). Because Congress had by that time required DOE to focus only on Yucca Mountain, the Department's proposed amendments dealt with provisions of the guidelines that were applicable to the site recommendation stage. In November 1999, DOE revised its 1996 proposal to focus on the criteria and methodology to be used for evaluating geologic and related aspects of the Yucca Mountain site (64 *FR* 67054; November 30, 1999). DOE has finalized its guidelines at 10 CFR Part 963 to replace 10 CFR Part 960.

DOE included explicit disqualifiers in the 1984 general guidelines (10 CFR Part 960) to guide its assessment of a number of sites under consideration for repository development. At that time, failure to meet the qualifying condition of any guideline was a basis for disqualifying a site. Under the NWPA Congress directed DOE to focus only on Yucca Mountain and directed the Environmental Protection Agency and the Nuclear Regulatory Commission to promulgate standards to protect public health and safety. Failure to meet the Environmental Protection Agency standards or Nuclear Regulatory Commission licensing criteria would disqualify the Yucca Mountain site.

Even though 10 CFR Part 960 no longer applies to Yucca Mountain, information and analyses do not support a finding that the site would have been disqualified under the groundwater travel time disqualifying condition at 10 CFR 960.4-2-1(d). Under that condition, a site would be disqualified if the expected groundwater travel time from the disturbed zone (the area in which properties would change from construction or heat) to the accessible environment would be less than 1,000 years along any pathway of likely and significant radionuclide travel. The definition of groundwater travel time in 10 CFR 960.2 specifies that the calculation of travel time is to be based on the average groundwater flux (rate of groundwater flow) as a summation of travel times for groundwater flow in discrete segments of the system. As part of its site characterization activities, DOE has undertaken various studies to identify and consider characteristics of the unsaturated (above water table) and saturated (water table) zones, such

as the flow and transport of water and radionuclides, that are relevant to analyzing groundwater travel times. DOE has considered physical evidence such as the chemistries and ages of water samples from these zones. Based on numerical models, which incorporate the results of these studies and available physical evidence, DOE estimates that the median groundwater travel times would be about 8,000 years, and average groundwater travel times would be longer. Given this, DOE believes that the site would not have been disqualified under the groundwater travel condition at 10 CFR 960.4-2-1.

The Secretary of Energy will consider the information and results of the DOE site characterization program and the environmental analyses in the EIS, and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission, Department of the Interior, the Environmental Protection Agency, the Council on Environmental Quality, and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President to develop a repository at Yucca Mountain.

## **1.2 (11494)**

**Comment** - EIS002254 / 0007

This is genocide, and anyone who sits at the table of genocide will be a part, and will be accountable to their next generation through our oral history. We will make sure that that stays alive.

### **Response**

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

DOE believes that the analyses in the EIS demonstrate that the Proposed Action would cause small, short-term public health impacts due primarily to the transportation of spent nuclear fuel and high-level radioactive waste to the repository from existing commercial nuclear reactor sites and DOE sites. These impacts would be caused chiefly by traffic fatalities and radiological doses to members of the public from the routine transportation of these materials. Under the No-Action Alternative the obligation to store these materials continuously in a safe configuration would become the responsibility of future generations.

## **1.2 (12039)**

**Comment** - EIS000540 / 0013

Urge the Secretary of Energy to meet his or her duty\* and declare the Yucca Mountain site unsuitable for development of a nuclear repository now or in the future, terminate all work at the site, and inform Congress of his or her actions.

\* Nuclear Waste Policy Act, as Amended [42 U. S. C. 10101 *et seq.*] Sec. 113(c)(3).

### **Response**

The NWPA establishes a process leading to a decision by the Secretary of Energy on whether to recommend that the President approve Yucca Mountain for development of a geologic repository. As part of this process, DOE must undertake site characterization activities at Yucca Mountain to gather information and data needed to evaluate the site and to prepare an EIS. The Department has an ongoing site characterization program of investigations and evaluations to assess the suitability of the Yucca Mountain site as a geologic repository and to provide information for this EIS. The program consists of scientific, engineering, and technical studies and activities. DOE used the information from the program in preparing the EIS, and has relied on reports and studies sponsored by other Federal agencies, the State of Nevada, and affected units of local government. The Secretary has made no decision on the suitability of Yucca Mountain as a geologic repository. In determining whether to recommend the Yucca Mountain site to the President, the Secretary would consider not only the potential environmental impacts identified in this EIS, but other information designated in Section 114 of the NWPA.

DOE is responsible for the ultimate disposal of spent nuclear fuel and high-level radioactive waste. If DOE determined that the Yucca Mountain site is unsuitable for a repository, then it would have to develop

recommendations for further action, including the need for new legislation to ensure the safe, permanent disposal of these materials.

**1.2 (12228)**

**Comment** - EIS001873 / 0017

P.1-3. EIS should be issued after rulemaking process is complete.

**Response**

As required under the Energy Policy Act of 1992, the Environmental Protection Agency has established standards for the protection of the public from releases of radioactive materials disposed of in a repository at the Yucca Mountain site (see 40 CFR Part 197), and the Nuclear Regulatory Commission has published criteria for licensing the repository (10 CFR Part 63) that are consistent with the radiation protection standards established by the Environmental Protection Agency. In addition, DOE promulgated its final 10 CFR Part 963 guidelines to establish the methods and criteria for determining the suitability of the Yucca Mountain site for the location of a geologic repository.

At the time of publication of the Draft EIS, only the proposed Nuclear Regulatory Commission criteria were available. Although DOE has considered the final regulations in this EIS, it does not believe it necessary to have the final form of these regulations to evaluate potential environmental impacts from the Proposed Action. The regulations are not applicable, per se, to the analysis of the Proposed Action, and provide limited information useful to judging the significance of related environmental impacts.

**1.2 (12339)**

**Comment** - EIS001482 / 0002

I heard Cynthia say earlier that Yucca Mountain will be the worst spot for this stuff. There couldn't have been a worse spot. Well, there was a worse spot between Six Year Peaks (phonetic) in Canyonlands National Park, but luckily Utah wasn't blessed with this waste.

But the fact of the matter is that because of my experience in the mid-80's with this process, I happen to know, or actually I feel that this hearing here right here tonight is a bunch of crap. This hearing is a bunch of crap, this process is a bunch of crap, and the decision to focus on Yucca Mountain is a bunch of crap, because frankly, the Department of Energy is probably one of the most politicized agencies in the federal government. And the fact is that way back in the early years of this process there were places in consideration for a nuclear waste depository that were taken out just because of political pressures, and I'm breaking cobwebs in the back of my brain trying to remember this stuff from the 80's, and I've slept since then. But I think it was -- was it Jim Wright? Was he out of Texas? I think there was a site in Texas that was just primo for this type of thing. Right out the door. They didn't want it there, you know. And there were others across the country, too. I think there was even one up in Wisconsin or Minnesota that was looking really nice.

And the thing about that was that those are so much closer to where these plants are. Most of them, I mean. I look at the map here and there's just a handful that are on the western side here of the country, but most of them are in the eastern part of the United States. I just had a quick perusal of the DEIS, I guess it is, and I'm looking over those transportation distances. It's outrageous. Why are we moving all this stuff to the West? Why are we dumping it on the West again? There have to be sites out in the east, and if not, we could do something about that. But the thing that scares me is this idea of transporting all this waste across all these miles. It's just a ridiculous decision.

I do think that it has been a long process, 17 years. People can go back and forth and say, yeah, when you're looking at nuclear waste, 17 years is a blink of an eye; and yeah, they may be right. But 17 years of hearings and different things that you folks are going through is a long time; but the fact is that Yucca Mountain deserves to be disqualified simply because of the fact that other sites that are more well qualified were taken off the map early in the political process that accompanied the Nuclear Waste Policy Act in the subsequent finding of a home for the temporary -- or the permanent storage of the waste.

I think that you are making a mistake in asking us to accept the waste out here in the West. You're going in an area -- and again, the politics of it all, I mean, Nevada, how many electoral votes do they have? How many electoral votes does Utah have? That's why these things get stuck out in the West. You couldn't stick it in Texas or

California if you tried to, and that's because of all the votes and such, irregardless of the geological features and population issues.

So I think it's a problem. I'm not for this site being utilized for this.

**Response**

Geologic disposal of radioactive waste has been the focus of scientific research for more than 40 years. As early as 1957, a National Academy of Sciences report to the Atomic Energy Commission (a DOE predecessor agency) recommended burying radioactive waste in geologic formations (DIRS 100011-NAS 1957). In 1976, the Energy Research and Development Administration (another predecessor agency) began investigating geologic formations and considering different disposal concepts, including deep-seabed disposal, disposal in the polar ice sheet, and rocketing waste into the sun. Based on the results of these investigations, DOE determined in a Record of Decision (46 *FR* 26677, May 14, 1981) that it would pursue mined geologic disposal.

In passing the Nuclear Waste Policy Act of 1982, as amended in 1987, Congress determined that a geologic repository was the safest alternative for radioactive waste disposal (see Section 1.3 of the EIS for more information). For this reason, the Act specifically exempts DOE from considering in the EIS (1) the need for a repository, (2) alternative sites to Yucca Mountain, (3) alternative methods to geologic disposal, and (4) the time at which a repository could become available.

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President's action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

**1.2 (12743)**

**Comment** - EIS001888 / 0218

[Summary of comments noted by Clark County Nuclear Waste Division staff at various citizens' meetings.]

Some seemed to think it was a done deal.

Concern over Yucca Mountain being the only site studied - seems like there is no way to stop it.

Disbelief that there is no other sites being considered.

Great concern, and even anger, on what they perceived as having Yucca Mountain shoved down their throats.

Concern that no other place is being studied and that it is a "done deal."

How can DOE force this on the people of Nevada?

Citizens were generally concerned and wanted to know if their efforts would fall on deaf ears.

It seems predetermined that the waste will come to Yucca Mountain, public comments seem perfunctory.

Indicated that it was depressing to think that the waste could be transported to Yucca Mountain because of feeling like it was a done deal.

Concerned that DOE does not really listen to what is being said, that they will go ahead even if it really isn't in the best interest of the public because so much money has been put into the project so far.

Concerned that comments will fall on deaf ears.

Concerned that because of the money that has been spent and other reasons, it will happen “no matter what.”

**Response**

DOE issued the Draft EIS and sought public comments on the document and encouraged members of the public to attend public meetings conducted across the country. DOE has addressed every comment that was submitted and has made changes to the EIS as a result of the comments received. For example, DOE performed additional analyses regarding impacts along particular transportation corridors in Nevada and has included that information in the Final EIS.

As described in Chapter 1 of the EIS, Congress, through the passage of the Nuclear Waste Policy Act of 1982, determined that the Federal Government has the responsibility to dispose permanently of spent nuclear fuel and high-level radioactive waste to protect the public health and safety and the environment. The Act provides that the Federal Government must take precautions to ensure that these materials do not adversely affect the public health and safety and the environment for this and future generations.

The Secretary of Energy will consider the information and results of the DOE site characterization program, as well as the environmental analyses in the EIS and the views of the Nuclear Waste Technical Review Board, Nuclear Regulatory Commission and other agencies, the State of Nevada and affected units of local government, and public comments in determining whether to make a recommendation to the President whether to develop a repository at Yucca Mountain. In the event of such a recommendation, the President would decide whether to recommend the site to Congress. If the President did so, the Governor or the Legislature of Nevada would have 60 days from the President’s action to submit a notice of disapproval (if not, the site would be approved). Assuming the State submitted a notice of disapproval, the site would be disapproved unless, during the first 90 days of continuous session after the notice of disapproval, Congress passed a joint resolution of repository siting approval and the President signed it into law.

## **1.3 Purpose and Need for the Supplement to the Draft EIS**

**1.3 (12953)**

**Comment** - 010249 / 0007

Explain key steps leading up to the preparation of the FEIS.

The explanation of the basis for the design changes provided in the SDEIS was a positive step in the direction of providing background information, however, the FEIS should also address the entire chain of events that led to this evaluation. This SDEIS is not an isolated NEPA activity in the Yucca Mountain decision-making process. It is, rather, a key link in an ongoing chain of actions leading up to a presidential decision in 2001 on whether to approve the progression of the repository project at Yucca Mountain to the next steps of completing the designs and seeking an NRC license. The actions that have preceded this SDEIS form the foundation from which it was developed. Accordingly, a soundly based interpretation of this document can best be made in the context of these prior events.

**Response**

In the Draft EIS, DOE evaluated a preliminary design based on the *Viability Assessment of a Repository at Yucca Mountain* (DIRS 101779-DOE 1998). That design focused on the amount of spent nuclear fuel (and associated thermal output) that DOE would emplace per unit area of the repository (called areal mass loading). Areal mass loading was represented for analytical purposes in the Draft EIS by three thermal load scenarios: a high thermal load of 85 metric tons of heavy metal (MTHM) per acre, an intermediate thermal load of 60 MTHM per acre, and a low thermal load of 25 MTHM per acre. These scenarios were not intended to place a limit on the choices among alternative designs because, as stated in the Draft EIS, DOE expected the repository design to continue to evolve in response to ongoing site characterization and design-related evaluations. Rather, DOE selected these analytical scenarios to represent the range of foreseeable design features and operating modes, and to ensure that it considered the associated range of potential environmental impacts.

Since issuing the Draft EIS, DOE has continued to evaluate design features and operating modes that would reduce uncertainties in or improve long-term repository performance, and improve operational safety and efficiency. The result of the design evolution process was the development of flexible design. This design focuses on controlling the temperature of the rock between the waste emplacement drifts (as opposed to areal mass loading), but the basic elements of the Proposed Action to construct, operate and monitor, and eventually close a geologic repository at Yucca Mountain remain unchanged. DOE evaluated the flexible design in a Supplement to the Draft EIS, which was released for public review and comment in May 2001. Section 2.1.1 of the Final EIS summarizes the evolution of the Proposed Action design changes. DOE acknowledges in the EIS that the flexible design could be further modified or refined during the License Application process, if the site is approved for development. In this event, DOE will evaluate future repository design revisions in accordance with its regulations to determine whether it will conduct further National Environmental Policy Act reviews.

### **1.3 (12958)**

**Comment** - 010249 / 0012

Explain the Step-Wise Process for Site Recommendation and Licensing

DOE needs to clearly explain in the FEIS that the NEPA [National Environmental Policy Act] process is not a substitute for the NRC [Nuclear Regulatory Commission] licensing process (NEI DEIS comment VI). At public hearings held recently on the SDEIS, DOE continued to receive comments asking that information that is not required until DOE applies for an NRC license be provided for public comment as part of the EIS process. In responding to these comments, DOE should put the role of NEPA in proper perspective with the subsequent repository licensing process and refer to the significant opportunity for public involvement that exists in the NRC licensing process.

### **Response**

Section 1.3.2.3 of the EIS describes the repository decision process as established by the NWPA. A decision by the Secretary of Energy whether to recommend the site to the President will be made on the basis of a number of different types of information, including that contained in the Final EIS. Any recommendation would be accompanied not only by the Final EIS, but also by the other materials designated in Section 114 of the NWPA. These include, for example, a description of the proposed repository, preliminary engineering specifications for the facility, a description of the proposed waste form, an explanation of the relationship between the proposed waste form or packaging and the geologic medium of the site, a discussion of the site characterization data that relate to the safety of the site, preliminary comments of the Nuclear Regulatory Commission on the sufficiency of information for inclusion in any DOE License Application, and the views and comments of the Governor and legislature of any State or the governing body of any affected Native American tribe.

If the site designation becomes effective, the Secretary will submit a license application to the Nuclear Regulatory Commission for authorization to construct a repository and provide a copy to the governor and legislature of Nevada. The NWPA requires the NRC to issue a final decision approving or disapproving the construction authorization within 3 years after receiving the application. If the Secretary receives a construction authorization from the NRC, DOE can proceed with constructing the repository in accordance with NRC requirements. The Secretary can later submit to the NRC an amendment to the License Application requesting a license to receive and possess waste.

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